

TX Stream Team

Meeting of the Dallas Monitors

October 2012



Presented by:
City of Dallas

Trinity Watershed Management
Stormwater Management



Agenda

- Stormwater Program
- Water Quality Monitoring
- Water Quality Trends
- Outreach Efforts
- TX Stream Team Volunteer Program
- Next Steps



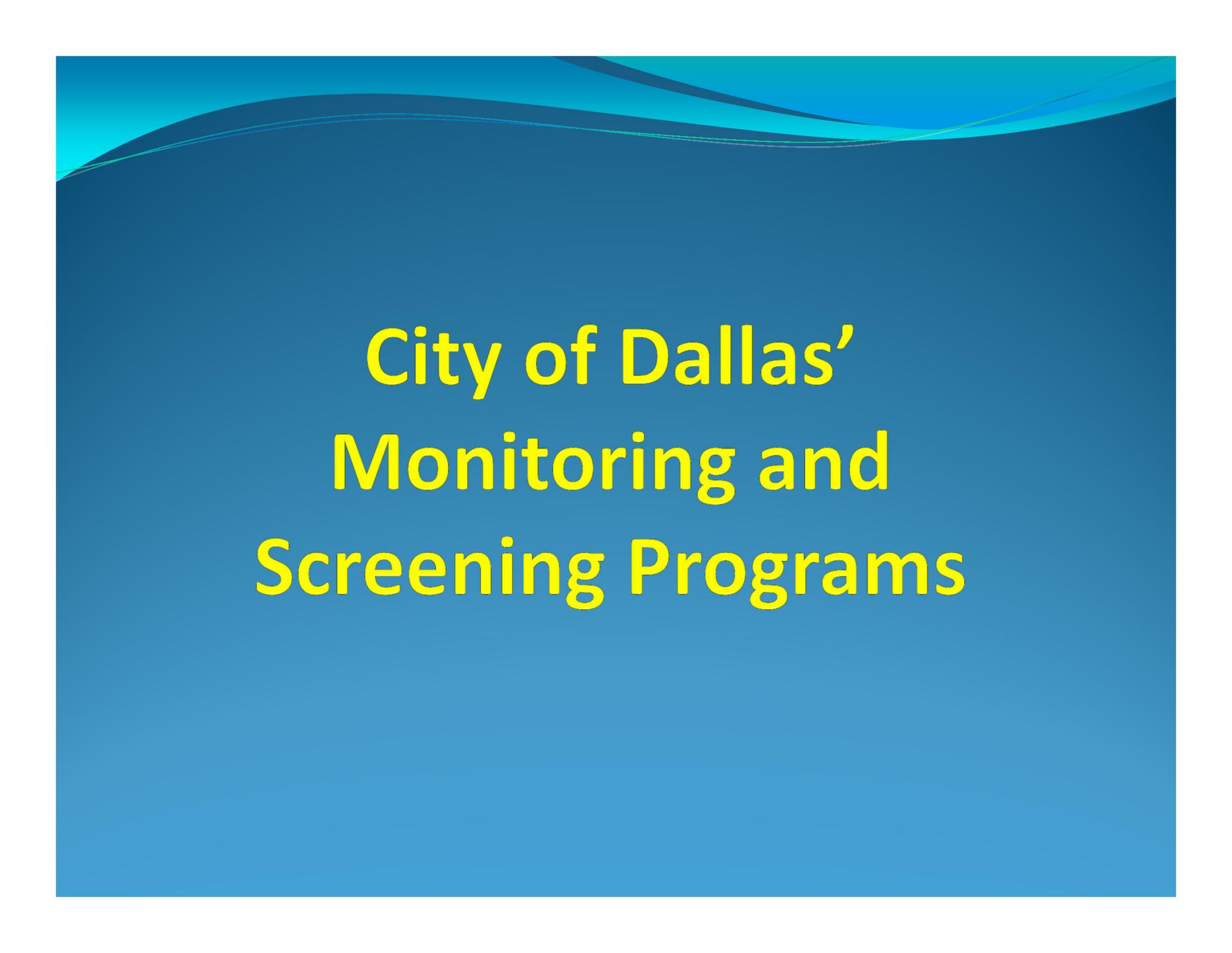
Section 402, Clean Water Act

- EPA delegated NPDES authority to Texas Commission on Environmental Quality (TCEQ)
- Texas Pollution Discharge Elimination System (TPDES) Permits
- Municipal Separate Storm Sewer System (MS4) Permit No. WQ0004396000
 - *Five Year Permit: Effective October 1, 2011*

TPDES Permit Responsibilities

- Comply with MS4 Permit requirements
- Inspect all industrial facilities, and construction sites > 1 acre
- *Perform water quality monitoring*
- Provide public outreach, education, and *involvement*
 - *Texas Stream Team Program*

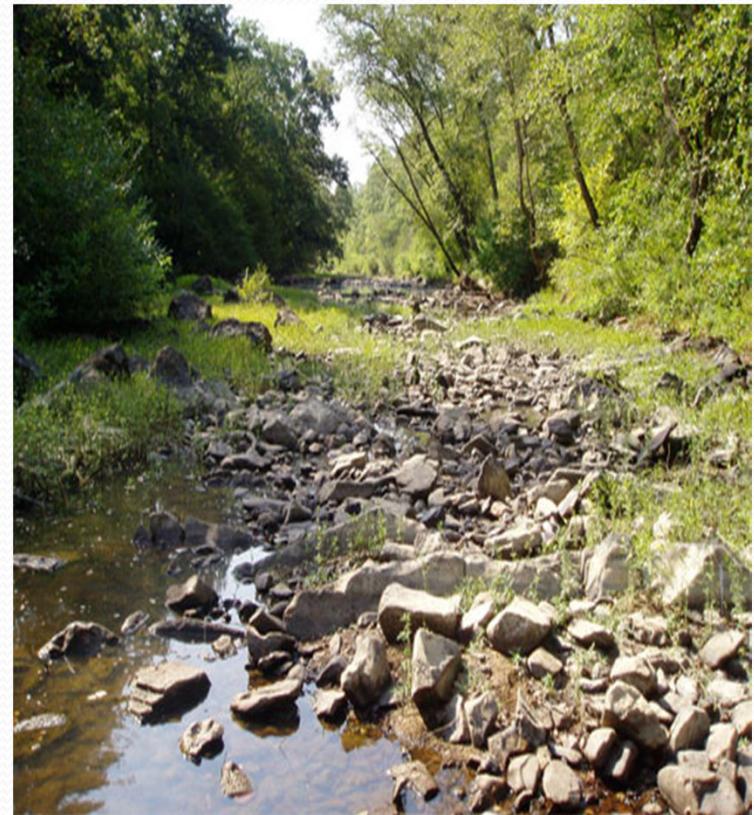




City of Dallas' Monitoring and Screening Programs

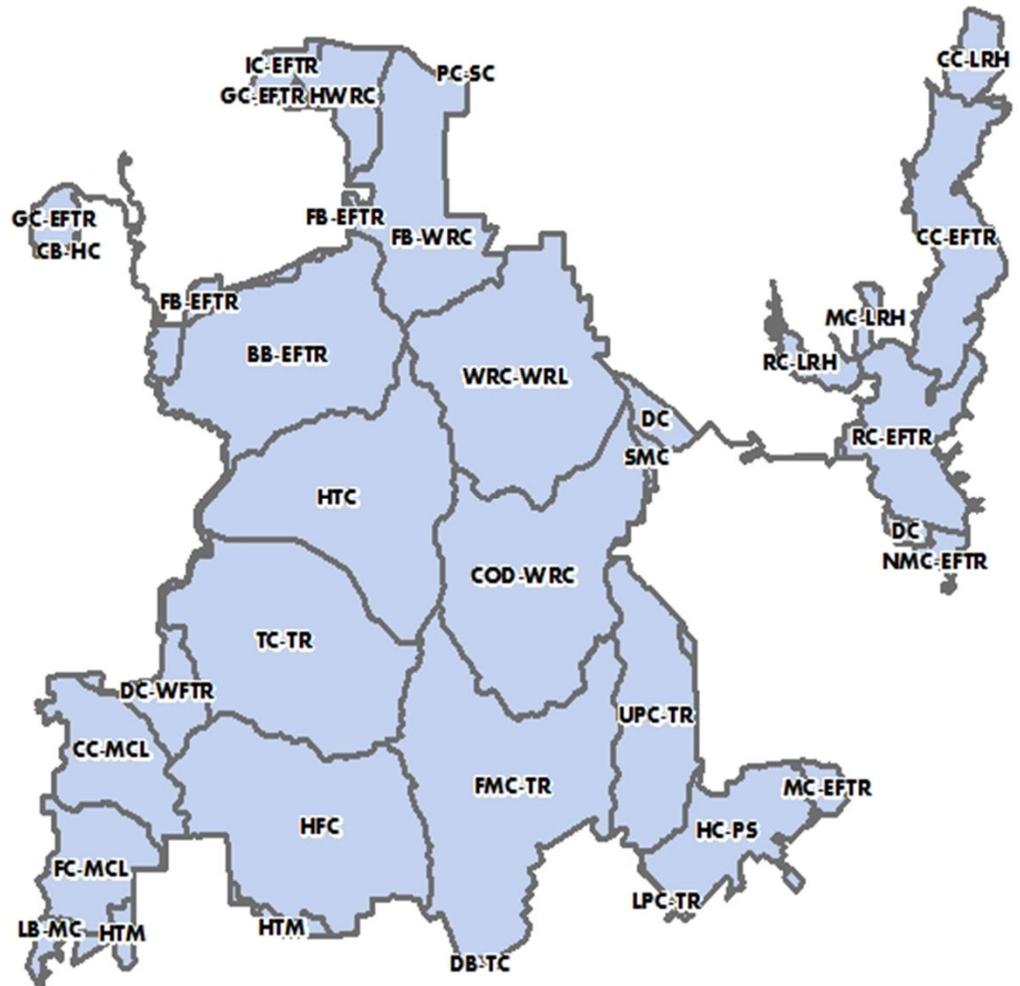
Monitoring and Screening Programs

- Assess effectiveness of Stormwater Management Plan by tracking water quality in local waterways.
- Identify areas impacted by MS4 discharges and other pollutant sources
- Guide investigations and BMP implementation.



Monitoring and Screening Programs

- Bioassessment
 - Aquatic Life Use
- Wet Weather
 - Runoff / Illicit Discharge
- Dry Weather
 - Illicit Discharge Detection
- Trinity River Authority - Clean Rivers Program
 - Trinity River Bacteria Sampling





Monitoring and Screening Programs

Quality Assurance

- All water quality monitoring and screening programs use Standard Operating Procedures (SOPs)
- TRA CRP sampling and analyses are conducted under a Quality Assurance Project Plan, to make sure the data collected for the Trinity River meets Data Quality Requirements
- All contract laboratories producing data for the City of Dallas Stormwater Management Division must be accredited by the National Environmental Laboratory Accreditation Conference (EPA/TCEQ requirement)

Bioassessment Program

- Protocols based on TCEQ and USFWS standard methods
- Assessment of stream health and habitat integrity through combination of:
 - Stream Habitat Assessment
 - Water Quality Sampling,
 - Biological Community Sampling



Bioassessment Program

- **Seasonal Monitoring**
 - March-June
 - July-September
- **47 Water Quality Sites:**
 - Baseline conditions+ Pesticides and Surfactants (Soap)
- **26 Biological Sites:**
 - Collection / identification of benthic macroinvertebrates (bugs)
 - In-stream habitat assessment



Wet Weather Program

- Assess the overall quality of wet weather discharges into City of Dallas waterways.
- Water samples are collected 30 minutes after a 0.10 inch rain event
- Parameters: Baseline Sampling + Bacteria, Oil & Grease, Arsenic, Carbaryl



Wet Weather Program

- Regional Program:
 - North Central Texas Council of Governments
 - Date collected is shared with other cities and TCEQ
 - Samples obtained near highly industrialized areas
- Local Program:
 - Used to identify and investigate other areas that may be contributing pollutants to the MS4



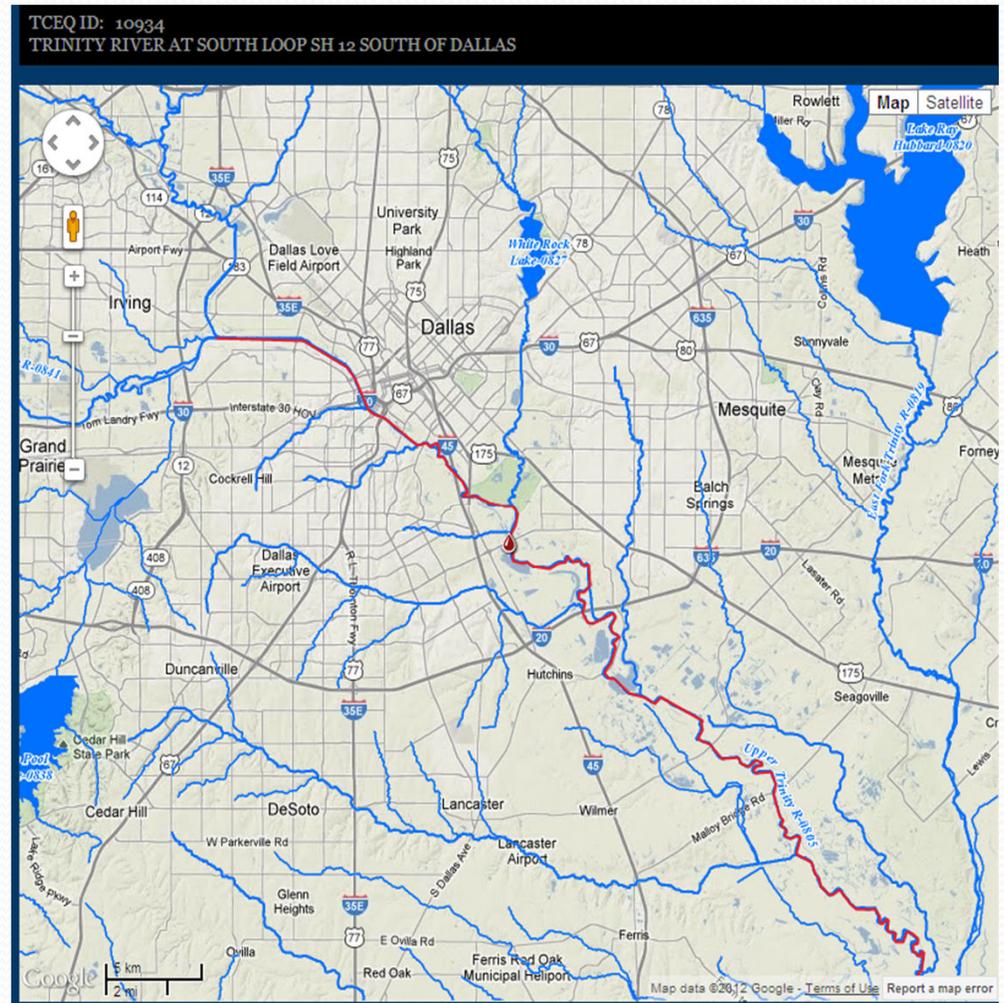
Dry Weather Program

- Focuses on identifying and eliminating illicit connections and improper discharges to the MS4
- Inspect ALL of approximately 8,500 outfalls in the City of Dallas
- Monitored 1,518 discharge locations in 8 HUC-12 watersheds during 2010 – 2011 permit year
- Basic parameters tested: Temperature, pH, specific conductivity, chlorine, hardness, etc.



Clean Rivers Program

- Trinity River Authority conducts river monitoring for TCEQ
- Program Goal: Assessing and improving the state's water resources.
- Dallas Water Utilities and Stormwater partner with TRA
- Monitor bacteria concentrations to monitor progress towards meeting Total Maximum Daily Loads for River
- QUARTERLY Sampling



Clean Rivers Program

Trinity River monitoring in Dallas:

- Mockingbird Lane
- Sylvan Boat Ramp
- Santa Fe Ave/DART (U/S Standing Wave)
- SH 310 Bridge
- South Loop 12



Special Projects

Special projects often develop from:

- Monitoring and Screening Programs
- Pollution investigations initiated by citizen observations
- Example: Lange Circle Project
 - A citizen reported an unusual observation in the creek. SWM investigated and created a monthly sampling project.





Identified Water Quality Issues

- ***Polychlorinated bi-phenols*** (pcbs) that are concentrated in fish tissue.
 - Very low concentrations (parts per billion) have been measured in the sediments in the river bottom.
 - Human health risks associated with pcbs are only if one eats fish from the river on a regular basis, not simply from physical contact with these sediments.
- ***Bacteria***: prevalent throughout much of the basin.
- ***Floatables***: prevalent throughout much of the basin.

2010 TRA Basin Summary

- *“Generally, water quality in the Trinity River basin is of high quality.”*
- General trends (through Dallas) show water quality improvement over time.
- During base flow periods, the water quality in the Trinity River meets most State and Federal surface water quality criteria, including those for primary contact recreation concerning bacteria;

Trinity River Bacteria TMDLs


Flows less than 2,000 cfs

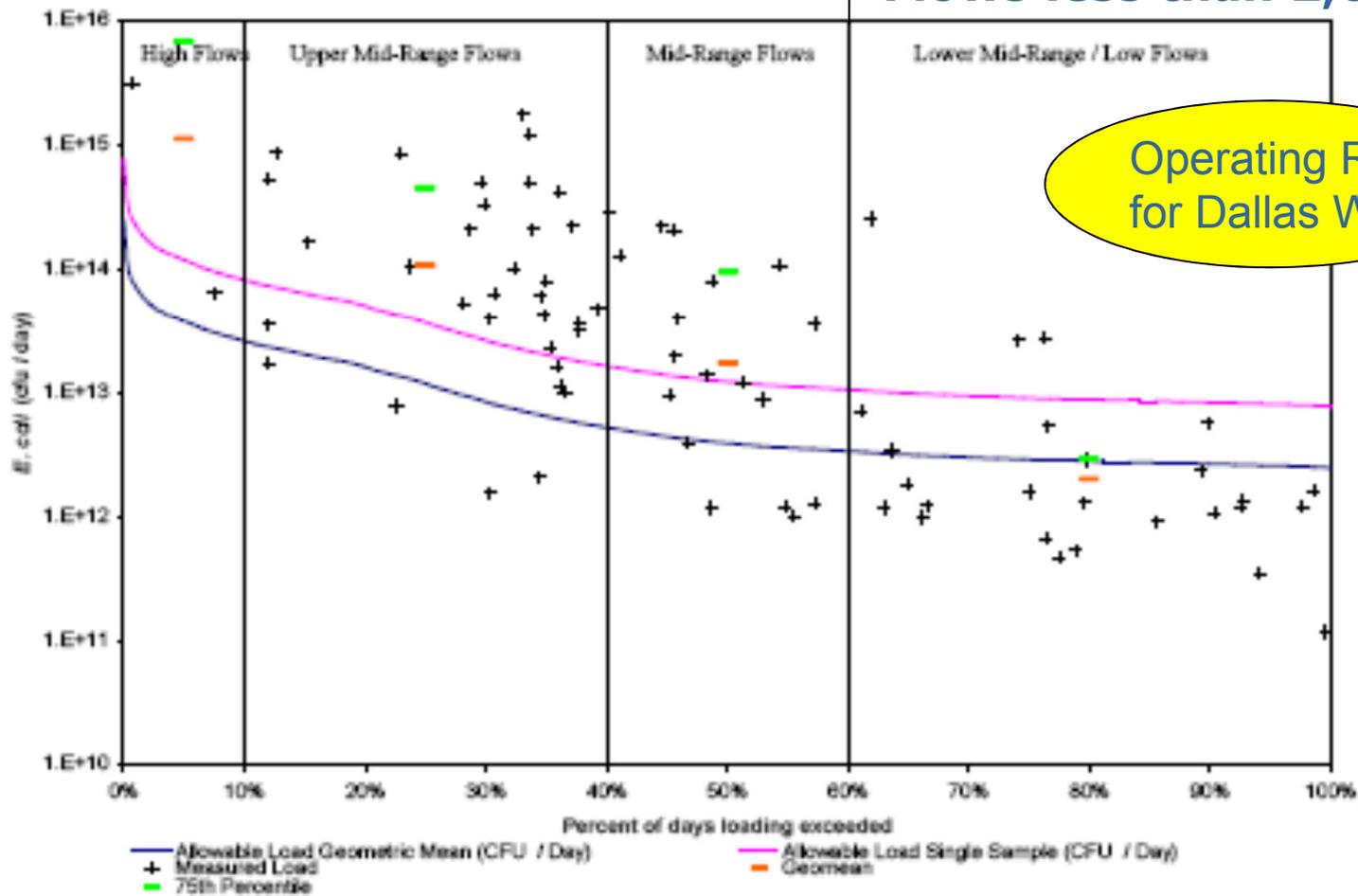


Figure 5-14 Bacteria load duration curve for station 10934, Segment 0805

So – Where Is It Coming From?

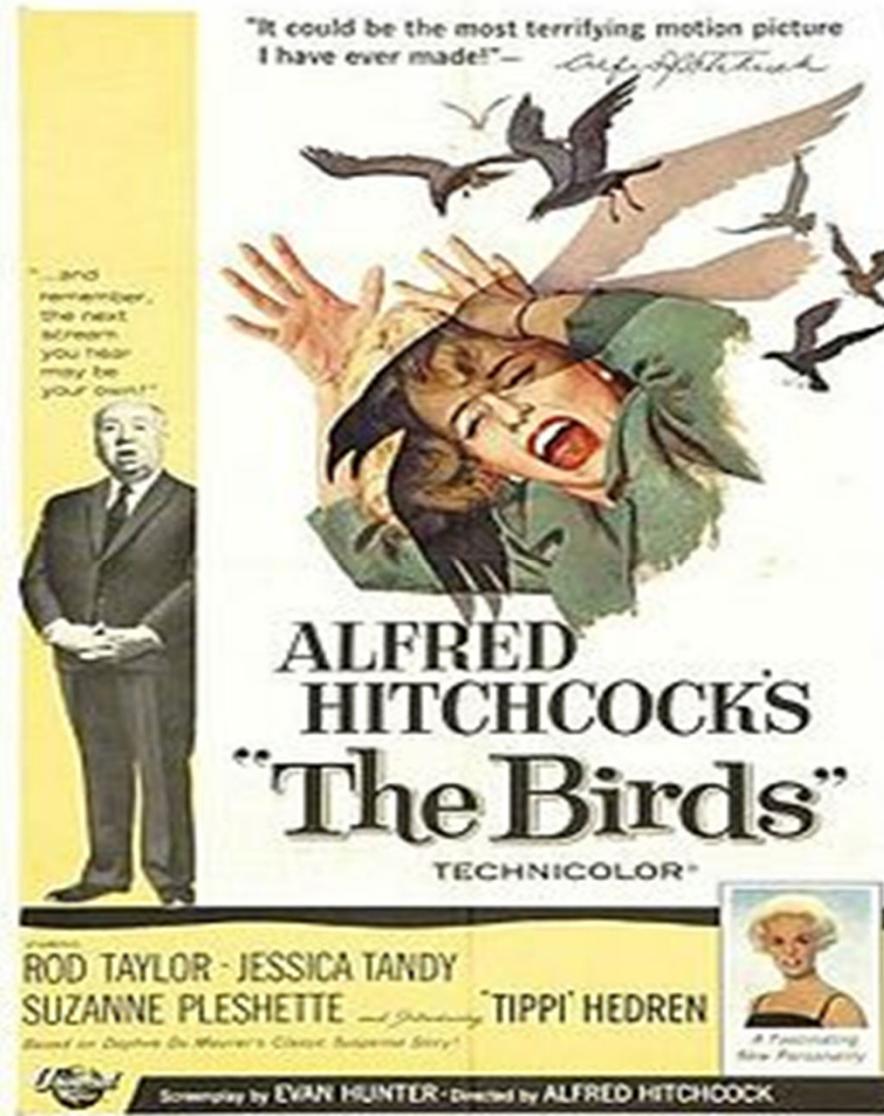


Wastewater Treatment Plant?



Sewer Outfalls?

Primary Bacteria Source



Bacteria Sources - Mockingbird Lane

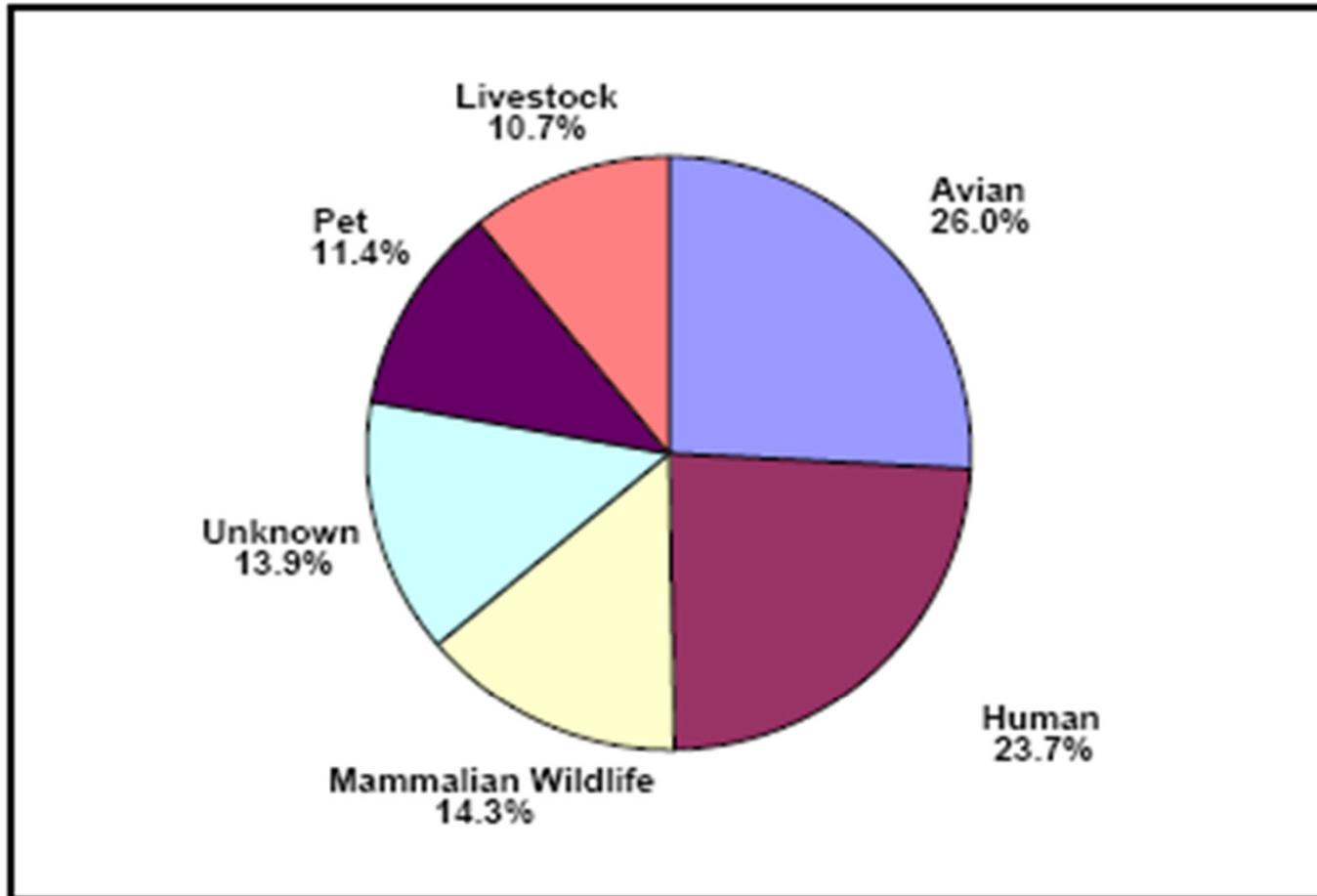


Figure 3-12. *E. coli* source characterization for Segment 0805 under all conditions.

Bacteria Sources – Beltline Road

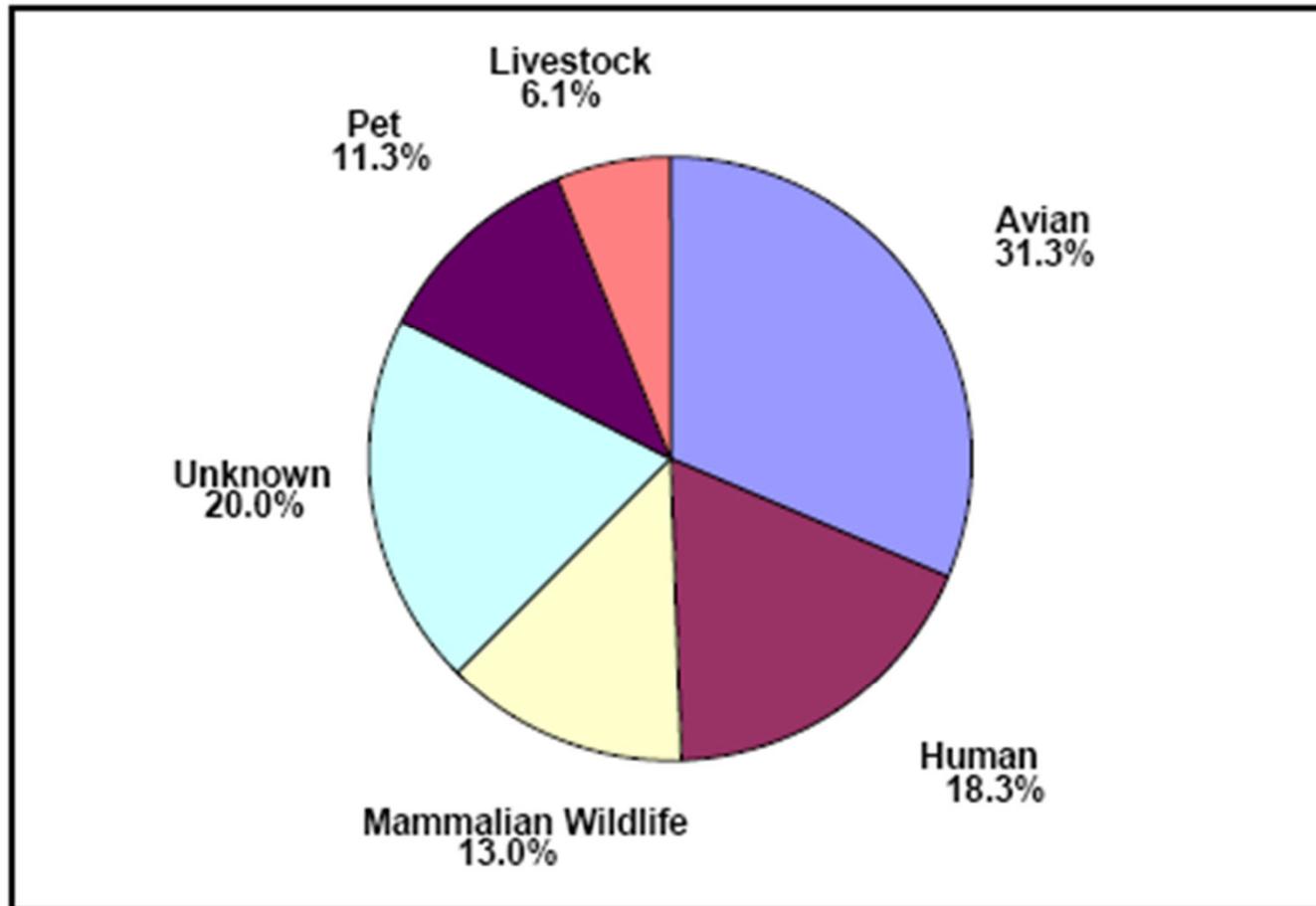
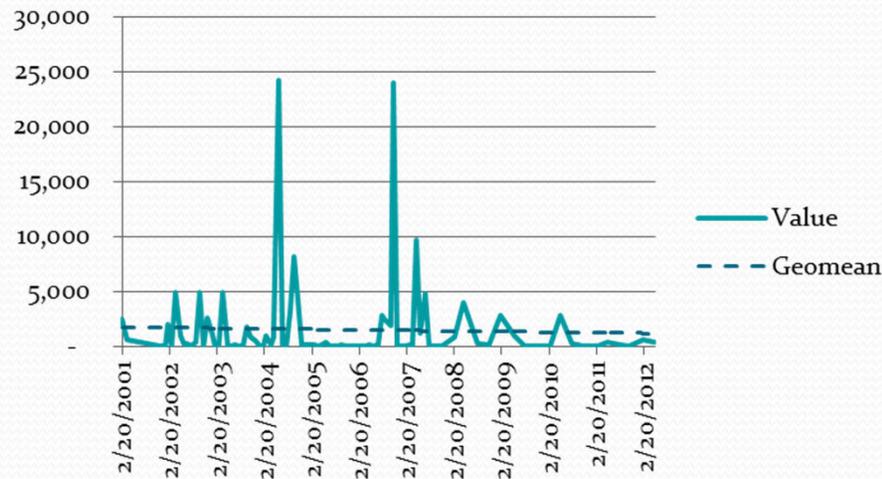


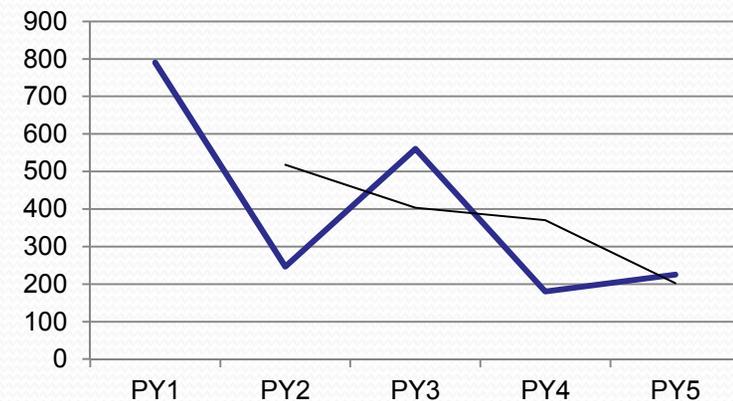
Figure 3-10. *E. coli* source characterization for station 11081 under all conditions.

So, what does the data tell us??

Mean Bacteria at Mockingbird Lane

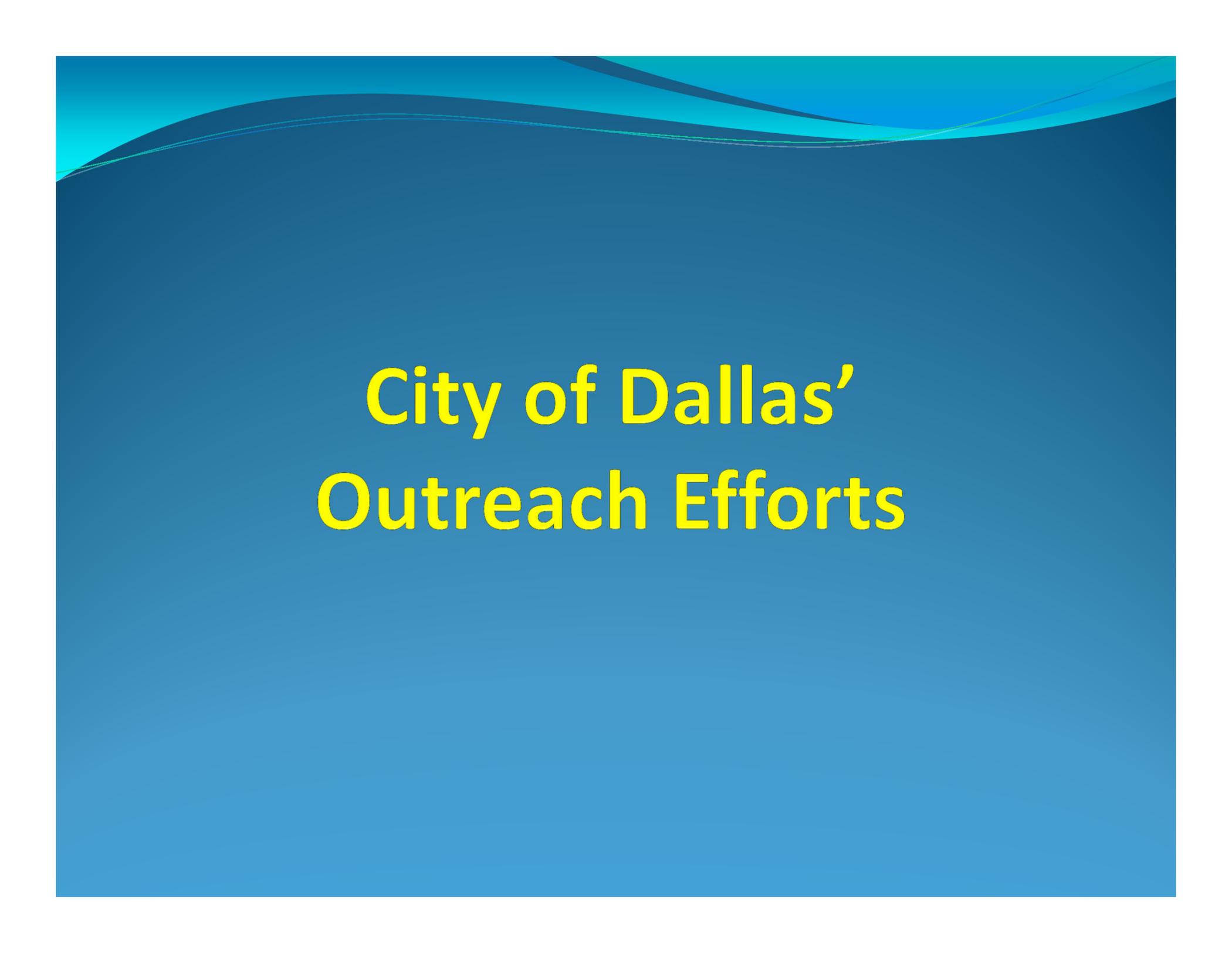


Mean Bacteria in Tributaries



Over last 5 years: 74% reduction in average Bacteria in Tributaries

Over last 12 years: 1000% reduction in Trinity River!



City of Dallas' Outreach Efforts

Outreach Focus

Multi-faceted Pollution Prevention

- Permit driven
 - Construction & Industrial site practices
 - Used Oil and Toxic Materials
 - Yard Waste
 - Pet Waste
 - Litter and Floatables
 - Illicit Discharge
 - General Pollution Prevention & Watershed Stewardship



Shift in Paradigm

➤ Historic Approach

- Permit based
- Separate monitoring sites
- Data evaluated independently

➤ Future Direction

- Water quality based
- Combined monitoring sites
- Holistic approach to data evaluation



Watershed Approach to Outreach

- Identifying and prioritizing water quality problems in the watershed
 - *Regular Monitoring*
- Developing increased public involvement
 - *Focused Outreach Activities*
- Coordinating activities with other agencies
 - *Involving Identified Stakeholders*
- Measuring success through increased and more efficient monitoring and other data gathering
 - *Continued Monitoring to Evaluate Outreach Effectiveness*

Reversing Litter

- Trinity Trash Bash
- Operation Beautification
- Keep Dallas Beautiful
 - Litter Index Survey
 - Streets
 - Channels
- Regional Media Campaign



The background of the slide is a gradient of blue colors. At the top, there are several overlapping, wavy bands of different shades of blue, ranging from a light cyan to a dark navy blue. The rest of the slide is a solid, medium-dark blue. The text is centered in the middle of the slide.

Texas Stream Team Program

Texas Stream Team

- Cooperative partnership between Texas State University, the Texas Commission on Environmental Quality (TCEQ), and the U.S. Environmental Protection Agency (EPA)
- Established in 1991
- *“Network of trained volunteers and supportive partners working together to gather information about the natural resources of Texas and to ensure the information is available to all Texans ”*



Texas Stream Team
Caring for Our Waters

Texas Stream Team Partners

- Texas Stream Team fosters partnerships that help volunteers collect and report water quality information, through the Texas Stream Team Partners Program
- Public and private entities can train, equip, manage, and offer general support to the growing number of volunteer monitors across the state

City of Dallas' Partnership

- Program partner since 2002
- Provide training/support to monitors
- Provide monitoring equipment/kits
- Provide ongoing supplies
- Assist with reporting to Texas State University/TCEQ
- Provides way of encouraging natural resource stewardship in an urban setting



Texas Stream Team
Caring for Our Waters



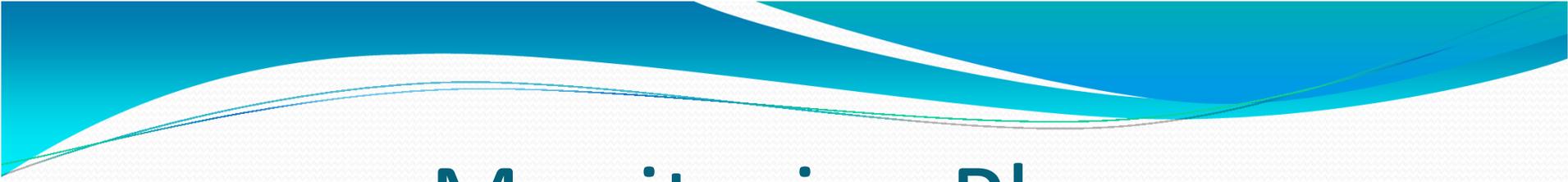
Texas Stream Team Strengths

- Monitors provide **“EYES ON THE GROUND”**
- Regular visits to over 8 watersheds & 13 subwatersheds
- 54 Citizens/Groups monitoring in the City of Dallas
 - 30 Active
 - 24 Inactive
- Use data to augment City’s data set
- Data becomes part of statewide data network
- Reports trigger emergency response and cleanup
 - **Call 3-1-1**
 - **Available for 24-7 Response**

Next Steps

- New Process
 - For Monitors
- New Forms
- Requesting Supplies
- Future Data Reporting
 - Website Portal (optional)





Monitoring Plan

- **Locations need to be in City of Dallas**
- Locations need to be consistent with where you are actually sampling or planning to sample
- City of Dallas and Texas State University will review sampling locations to identify any redundancies
- Submit new monitoring plan if you desire to change monitoring locations



Liability Release

- Needs to include **BOTH** City of Dallas **AND** Texas State University
- Needs to list persons doing sampling under monitoring plan
- Participants under 18 need parent/guardian signature
- *Acknowledge Acceptance of Terms of Program with respect to equipment use and return, data monitoring and reporting*

City Equipment Loan/Return

- Need equipment number on monitoring plan
- If you are using City equipment, want commitment to sample at least 9 months of the year
- If you decide to stop monitoring, return the equipment **BACK TO THE CITY OF DALLAS**



Data Management

Existing

- Mail form to City
- Fax to City
 - City sends to Texas State
- Texas State iPhone App
 - City pulls data from state database
- Email to Texas State University with copy to City
- Track data with regard to location and findings

Future

- Upload to pending Web Portal!
- Can still mail/email/fax
 - City Shares with Texas State
- Track data with regard to location and findings

Your Comments are REALLY Important !!!

Supply Requests

Existing

- Phone: 214-948-4022
- Email:
Stormwater@Dallascityhall.com
- Comments on Data sheet
- If supplies in stock, immediate delivery or pickup
- Otherwise ~ 30 days

Future

- Same as existing +
- Request supplies through Future Web Portal





Training New Monitors

Existing

- Solicited, coordinated, and taught by volunteer monitor
- City of Dallas
 - Informed of training
 - Receives Monitoring Plan
 - Issues Kits
 - Receive monthly sampling data

Future

- Contact City of Dallas
- We will:
 - Schedule and Conduct Training
 - Assist in identifying monitoring site
 - Receive monitoring plans
 - Issue kits
 - Receive monthly sampling data

**THE CITY OF DALLAS IS
YOUR POINT OF CONTACT!**



BOTTOM LINE

*The City of Dallas Stormwater Management is here to **SUPPORT** you!*

&

*We need **YOUR** help to improve Surface Water Quality in Dallas.*



Questions & Answers



Stormwater Management

- Mailing Address

City of Dallas

Stormwater Management

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- Email

stormwater@dallascityhall.com

- Website

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- Main Phone Number

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