



# Lake Conroe Watershed Protection Plan Stakeholder Group Meeting

May 13, 2014

# Agenda

**Meeting Objectives:** Review and discuss initial watershed characterization activities compiled by SJRA from existing data and from ongoing sampling program.

- |                 |                             |
|-----------------|-----------------------------|
| 9:00am–9:20am   | Introduction                |
| 9:20am–10:00am  | Potential Pollution Sources |
| 10:00am–10:20am | Water Quality Analysis      |
| 10:20am–10:30am | Discussion of Other Items   |

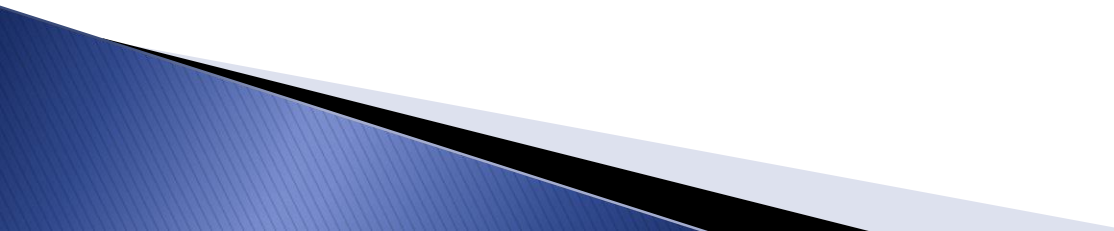
# Introduction

- ▶ New group members
- ▶ SJRA website and meeting notifications
- ▶ Re-cap from first meeting
  - Pertinent comments from initial and make-up meeting

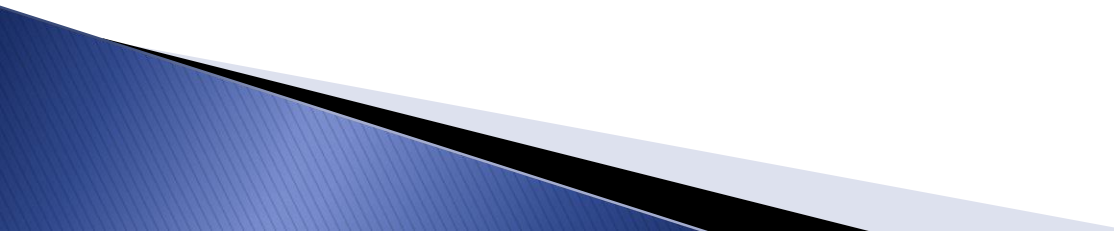
# Watershed Protection Plan Development Strategy

- ▶ Characterize the watershed
- ▶ Build partnerships
  - Stakeholder Committee
  - Public Outreach
- ▶ Identify, screen and finalize goals, and identify solutions
- ▶ Design an implementation program
  - Finalize and publish Watershed Protection Plan
- ▶ Implement the Watershed Protection Plan
- ▶ Measure progress and make adjustments

# Characterization Components

- ▶ Data Acquisition
    - External
    - In House
  - ▶ Mapping
  - ▶ Water Quality Analysis
  - ▶ Funding is an issue...
- 

# Potential Pollution Sources

- ▶ OSSF's
  - ▶ Agriculture runoff
  - ▶ Urban stormwater runoff
  - ▶ Wastewater treatment plants
  - ▶ Lift stations
  - ▶ Industrial spills
  - ▶ Wildlife
- 

# Mapping Review

Karen Thomas  
GIS Supervisor

# Water Quality

What is Lake Conroe's water quality?

- ▶ Location
- ▶ Parameter
- ▶ Time
  - Daily
  - Seasonal
  - Annual
- ▶ Weather



# Water Quality Analysis

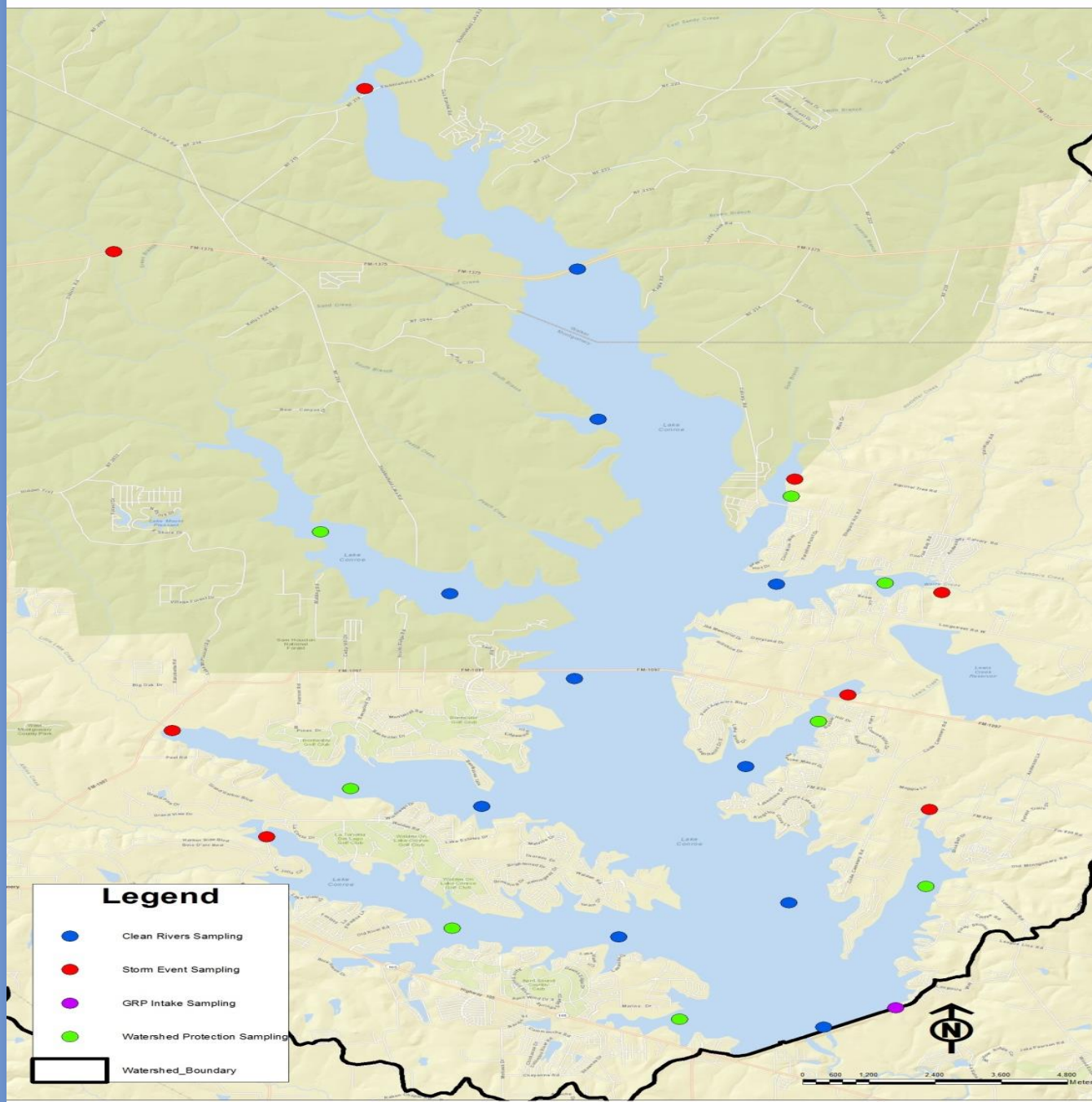
- ▶ Characterize water quality in the watershed
- ▶ Check for impairments
- ▶ Collect base line data
- ▶ Create water quality database



# Sampling Programs

- ▶ There are four sampling programs being conducted on Lake Conroe:
  - Clean Rivers Program
  - Watershed Protection Sampling
  - Storm Event Sampling
  - GRP/ Intake Sampling

# Sampling Sites



# Clean Rivers Program

Established in 1991, the Texas Clean Rivers Program (CRP) is a state fee-funded, non-regulatory program that was created to provide a framework and forum for managing water quality issues in a more holistic manner. The focus of the program is to work at the watershed level, within each river basin, by coordinating the efforts of diverse organizations.



TEXAS COMMISSION  
ON ENVIRONMENTAL QUALITY



Houston-Galveston Area Council

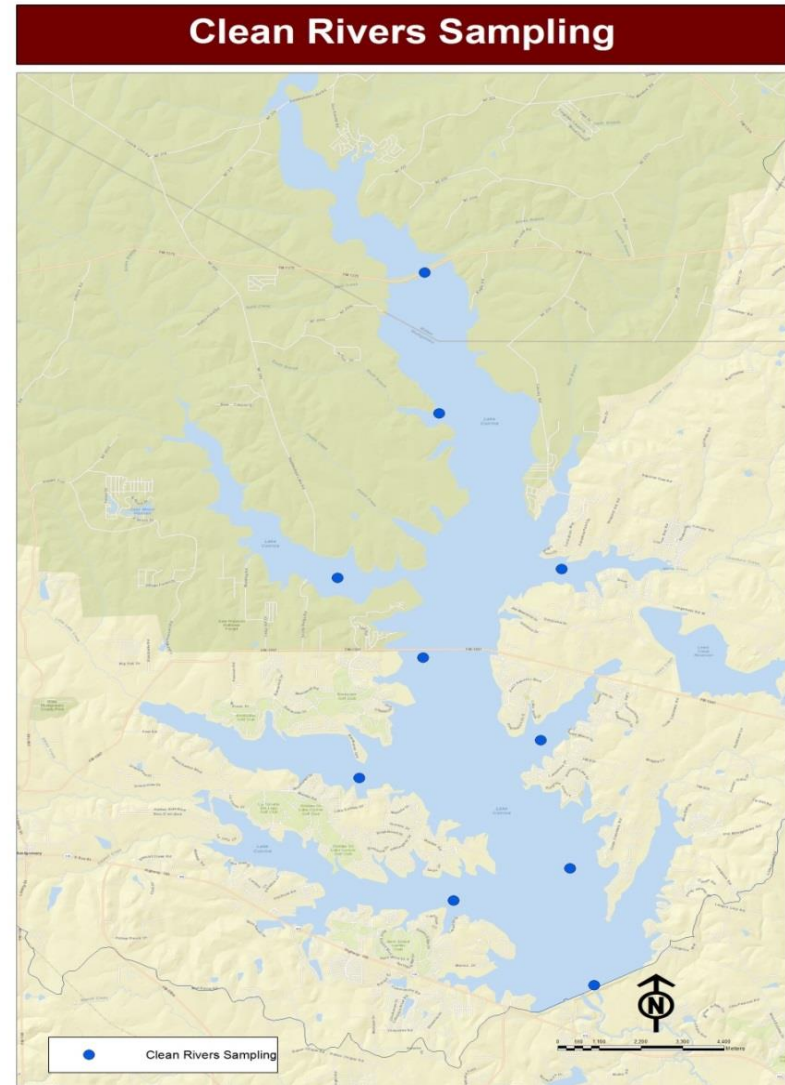
# Clean Rivers Program

- ▶ SJRA take grab samples and field measurements
- ▶ 10 sampling sites
- ▶ City of Houston lab analyzes the samples
- ▶ HGAC collects, QAQC and reports the results
- ▶ TCEQ funds the program



# Clean Rivers Program

- ▶ 7 sites at mouth of major tributaries
- ▶ 3 sites in main body of lake
- ▶ Sampled for monthly



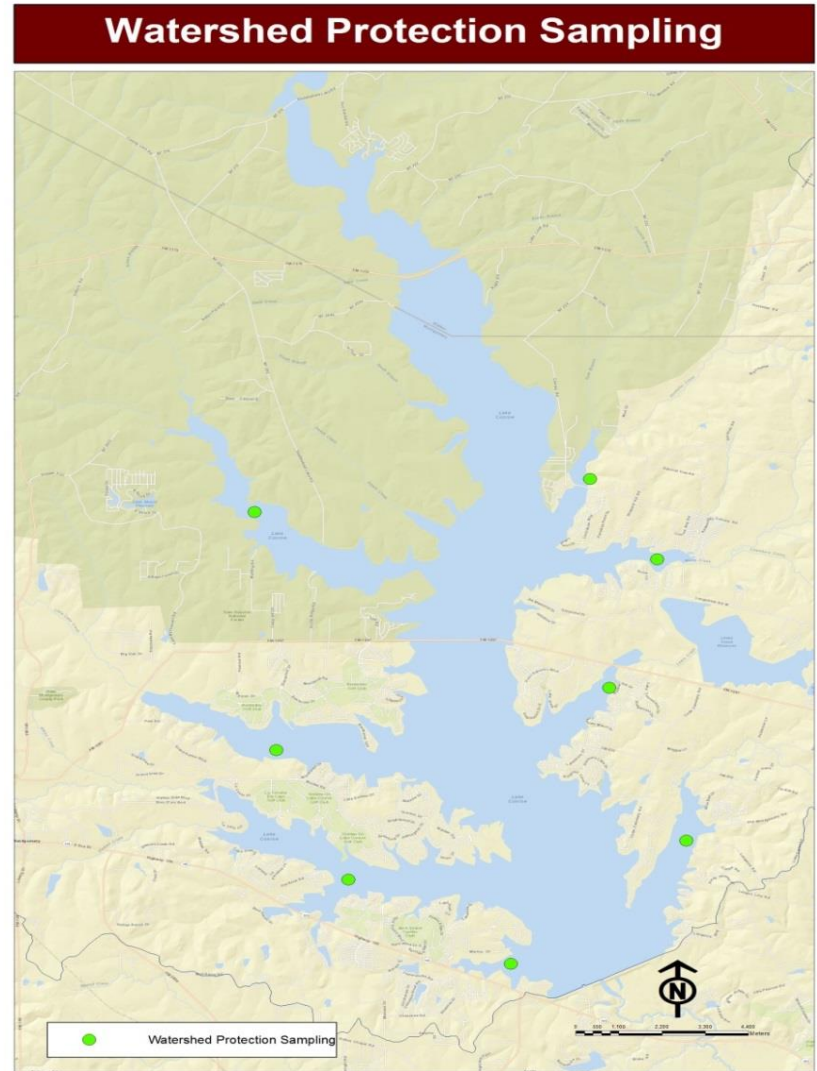
# Clean Rivers Program

## Water Quality Parameters

Alkalinity	Ammonia	CBOD
Conductivity	COD	Chloride
Chlorophyll	Dissolved Oxygen	E-Coli
Fecal Coliform	pH	Sulfate
TKN	Total Organic Carbon	Total Phosphate
Total Suspended Solids	Turbidity	

# Watershed Protection Sampling

- ▶ Eight sampling sites
- ▶ Started 2011
- ▶ Sampled Quarterly
- ▶ Created to fill data gaps





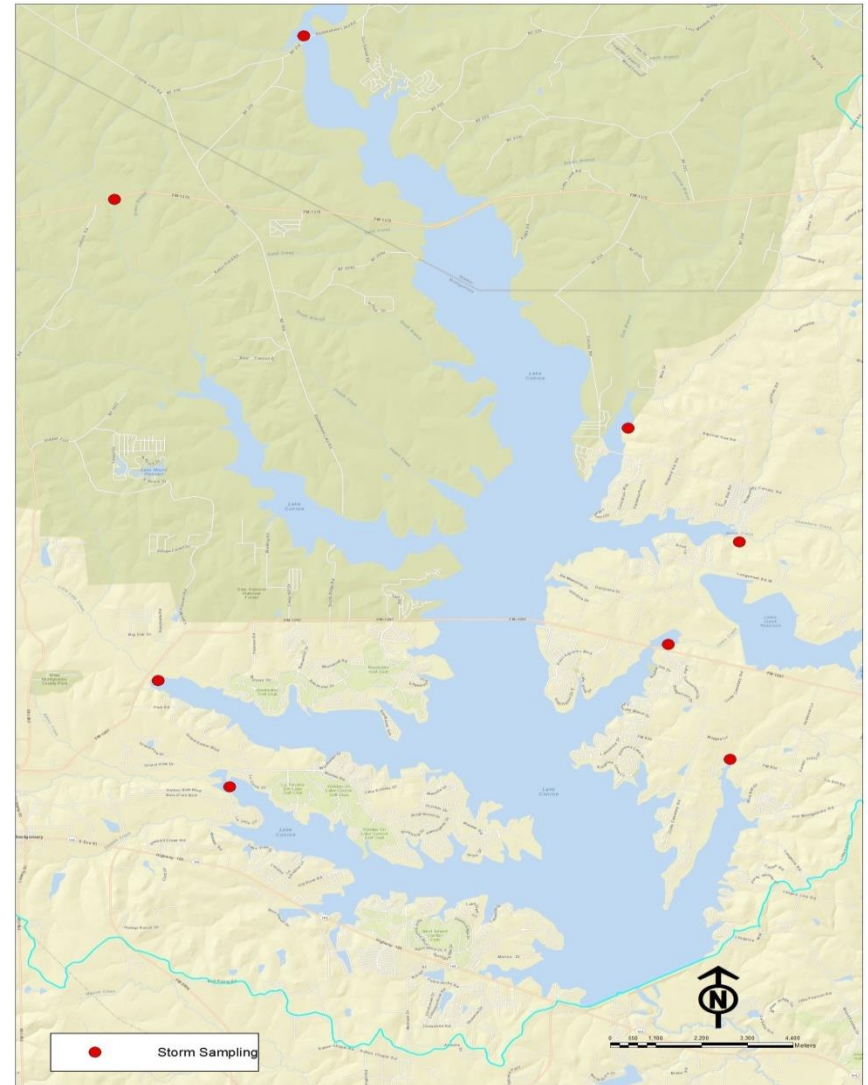
# Watershed Protection Sampling

## Water Quality Parameters

Alkalinity	Ammonia	CBOD
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Fecal Coliform	pH	Sulfate
TKN	Total Organic Carbon	Total Phosphate
Total Suspended Solids	Turbidity	

# Storm Event Sampling

- ▶ Started 2011
- ▶ Eight sampling locations
- ▶ Intermittent Streams
- ▶ Sampled Quarterly
- ▶ Created to fill data gaps
- ▶ Requires sampling during storm event



# Storm Event Sampling

## Water Quality Parameters

Alkalinity	Ammonia	CBOD
Conductivity	COD	Chloride
Chlorophyll	Dissolved Oxygen	E-Coli
Fecal Coliform	pH	Sulfate
TKN	Total Organic Carbon	Total Phosphate
Total Suspended Solids	Turbidity	

# GRP Intake Sampling

- ▶ Sampled for 7 years
- ▶ Depth profile sampling
- ▶ Daily
- ▶ More than 30 constituents sampled



# Physical Parameters

Algae Present

Bio Present

Contact Recreation

Flow

Secchi Depth

Temperature

Water Color

Water Odor

Water Surface

Weather

Wind Intensity

# QAQC

- ▶ Field sampling and data entry procedures follows the EPA approved Surface Water Quality Manual (SWQM).
- ▶ Lab QAQC procedures follows the widely accepted Standard Methods: for the examination of water and wastewater.



# Conclusion

The main effort of the sampling program is to understand the quality of the water in the Lake Conroe Watershed. With the long running CRP program, WPP sites and the Storm Event sampling we feel that the water quality will be well characterized and get a great base line data established. With this base line data we can recognize any changes in the water quality to better protect this great resource. These three separate sampling programs make up the sampling efforts of the Lake Conroe Watershed Protection Plan.