



BIG Ideas for Cleaner Water



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April 7, 2011





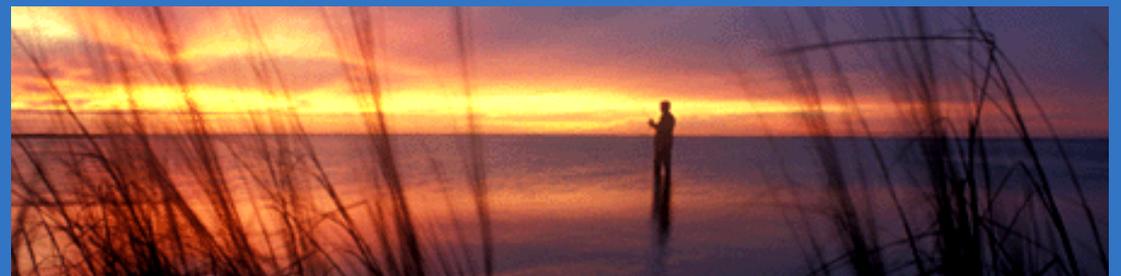
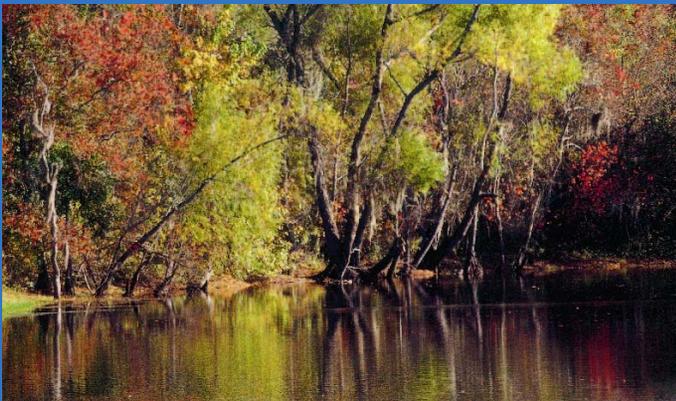
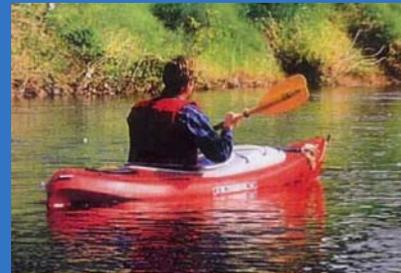
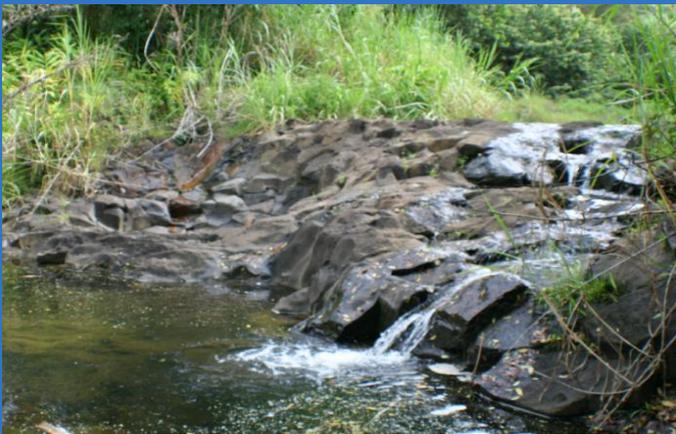








Photos and Plunge Pool courtesy of
Harris County Flood Control District



Topics



Photo courtesy Buffalo Bayou Partnership

- The Bacteria TMDLs: The Problem
- Implementation Plan: The Solution
- What is next?

Topics

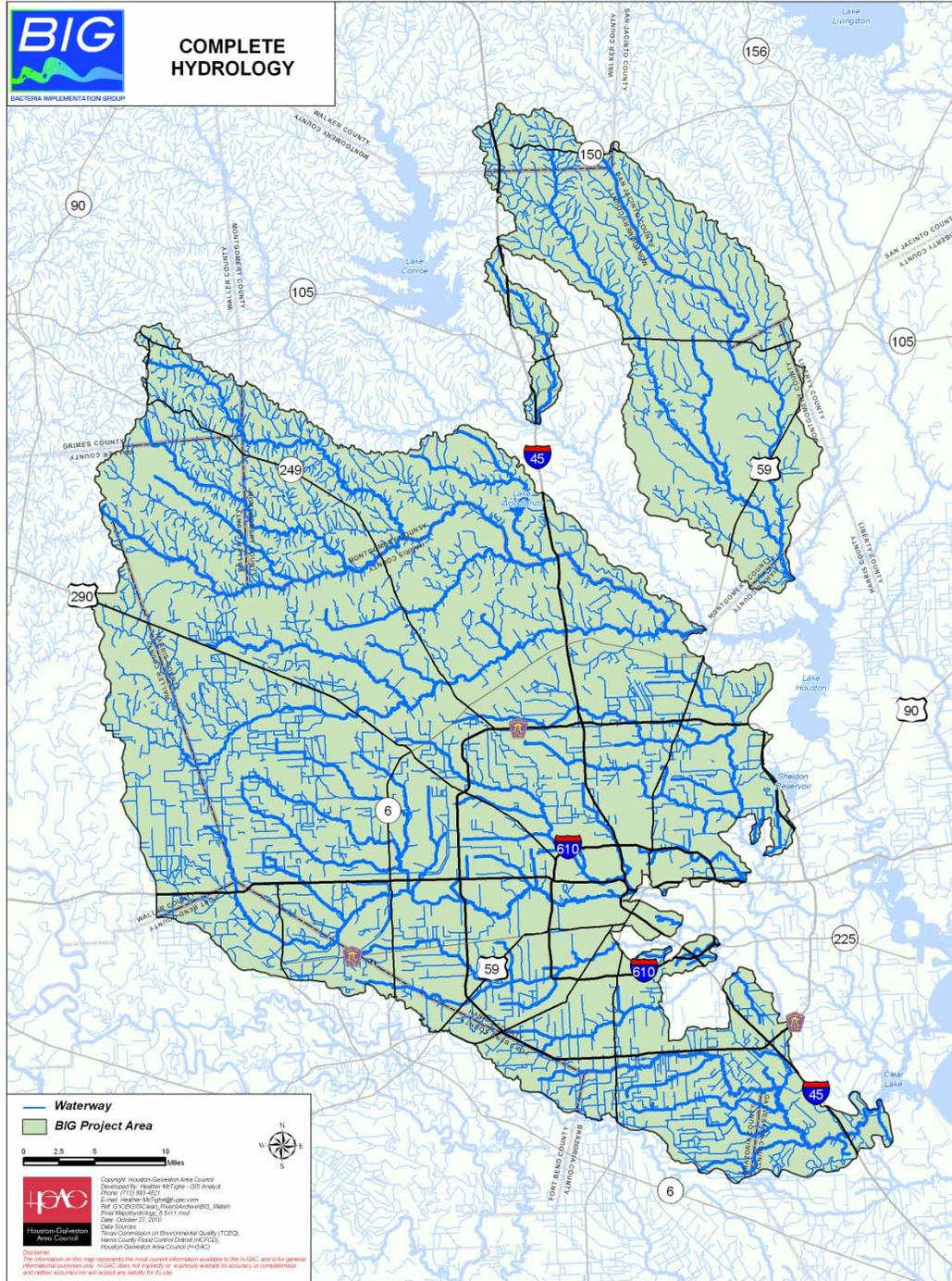


- **The Bacteria TMDLs: The Problem**
- Implementation Plan: The Solution
- What is next?



COMPLETE HYDROLOGY

BACTERIA IMPLEMENTATION GROUP



— Waterway
— BIG Project Area

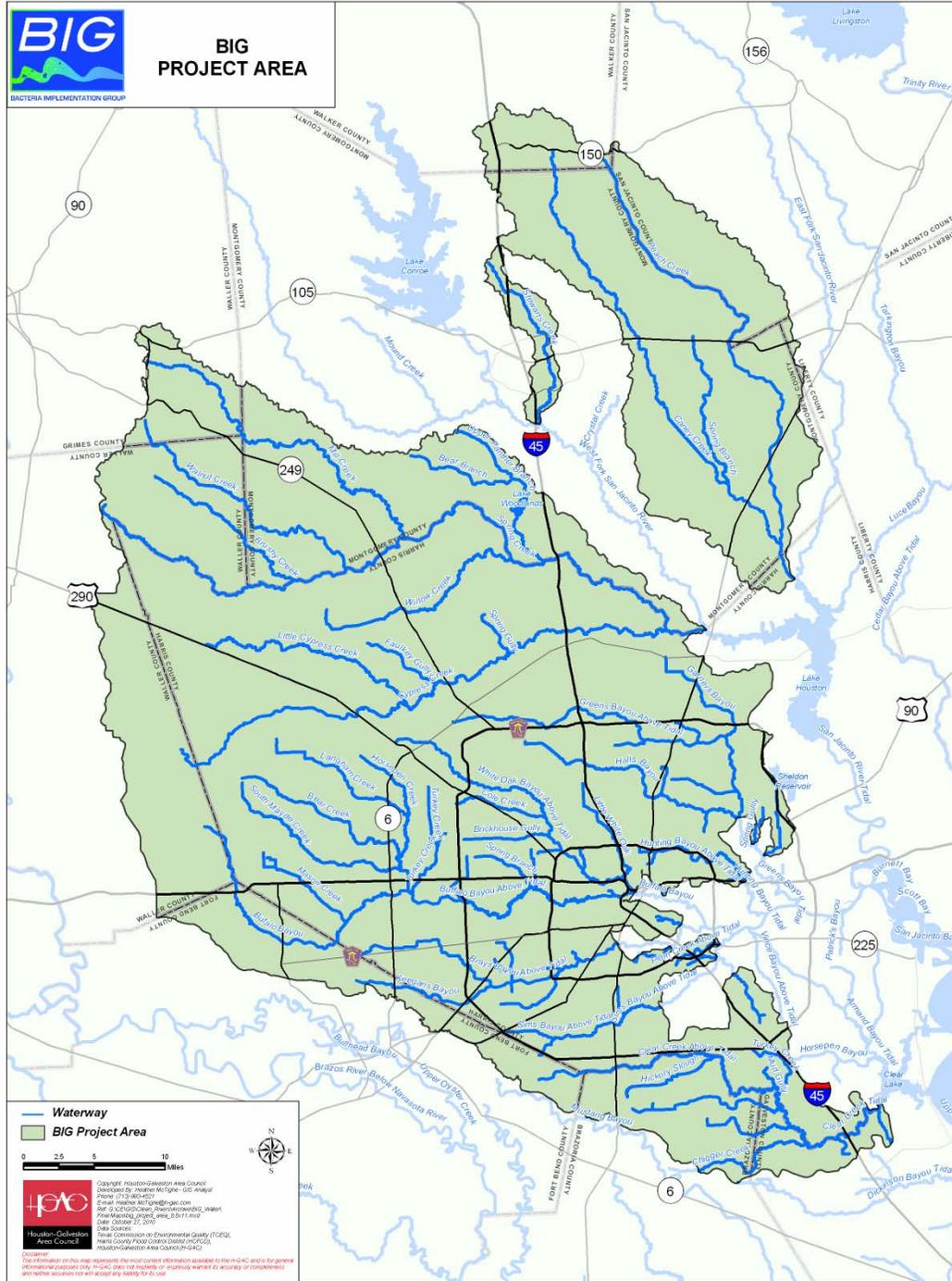


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File: H_G_CompHydrology_2010.mxd
Date: October 27, 2010
Data Source:
— or Environmental Quality (EPCO),
Harris County Flood Control District (HCFCD),
Houston-Galveston Area Council (HGAC)

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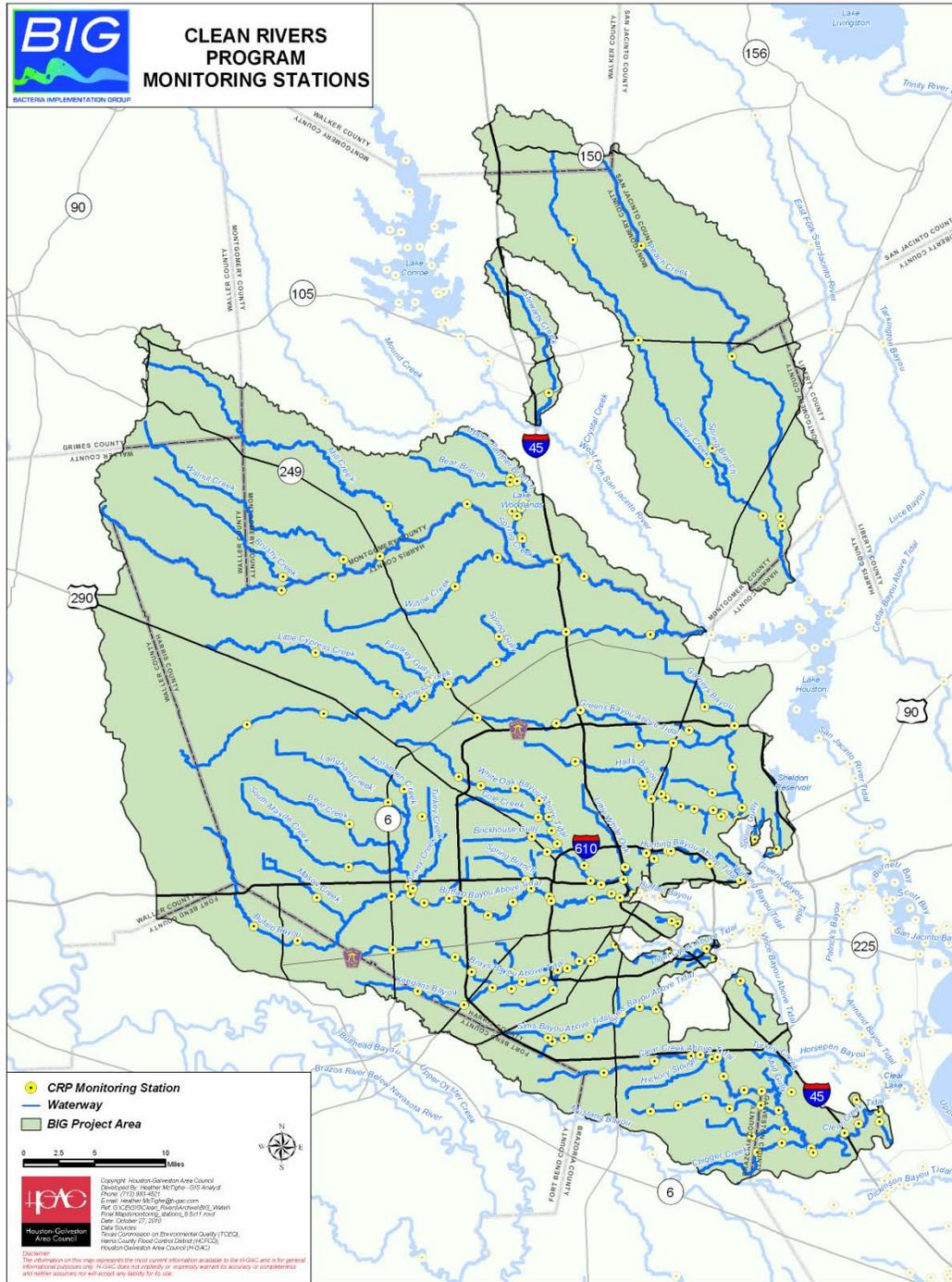


BIG PROJECT AREA





CLEAN RIVERS PROGRAM MONITORING STATIONS



● CRP Monitoring Station
— Waterway
■ BIG Project Area

0 2.5 5 10 Miles

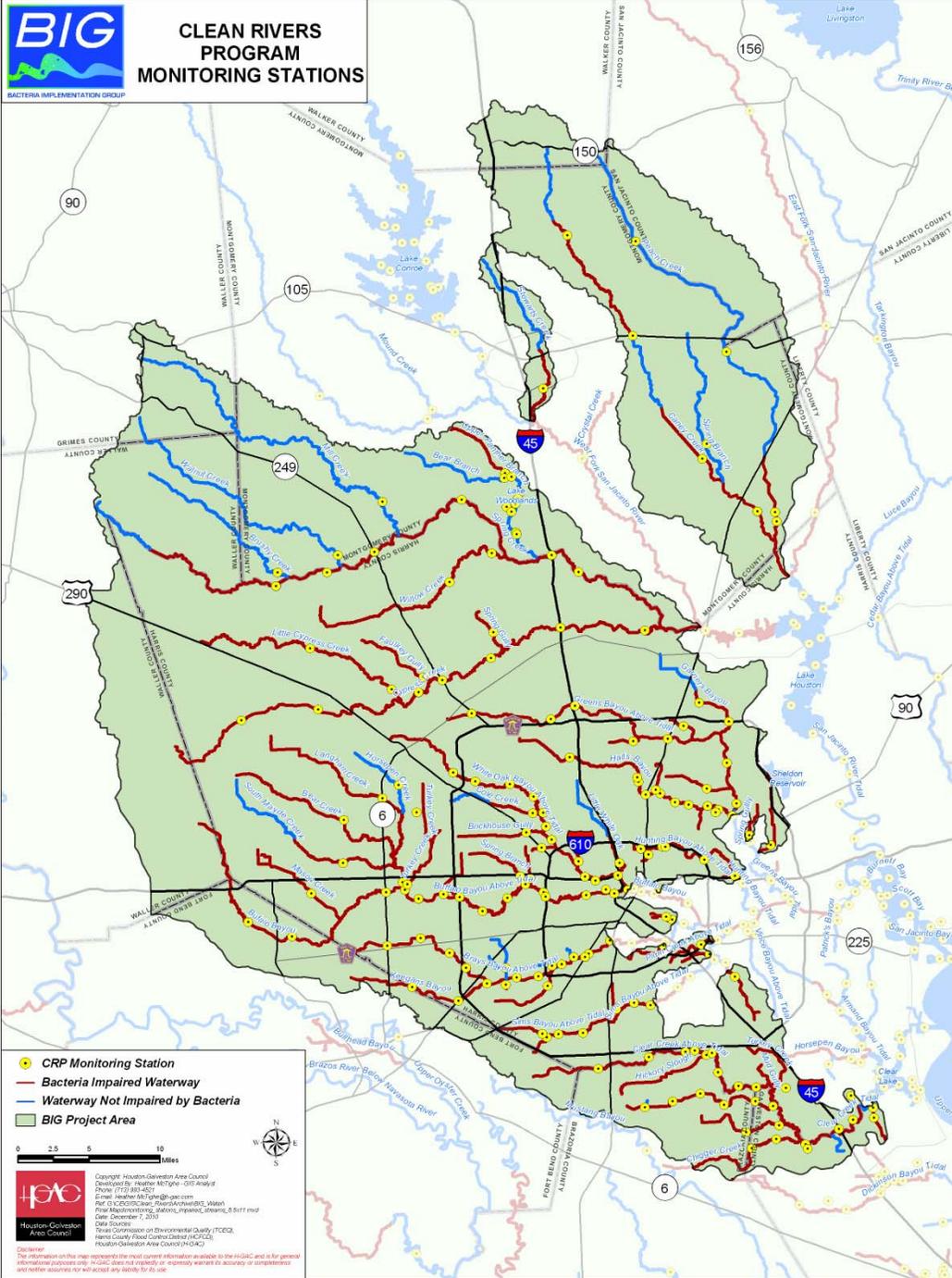
HGAC
Houston-Galveston Area Council

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File: C:\EGIS\Viewer_Planes\MonStns\BIG_Visual_Plan\MapMonitoring_STATIONS_S111.mxd
Date: October 27, 2010
Data Source:
Houston-Galveston Area Council (HGAC)
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CLEAN RIVERS PROGRAM MONITORING STATIONS



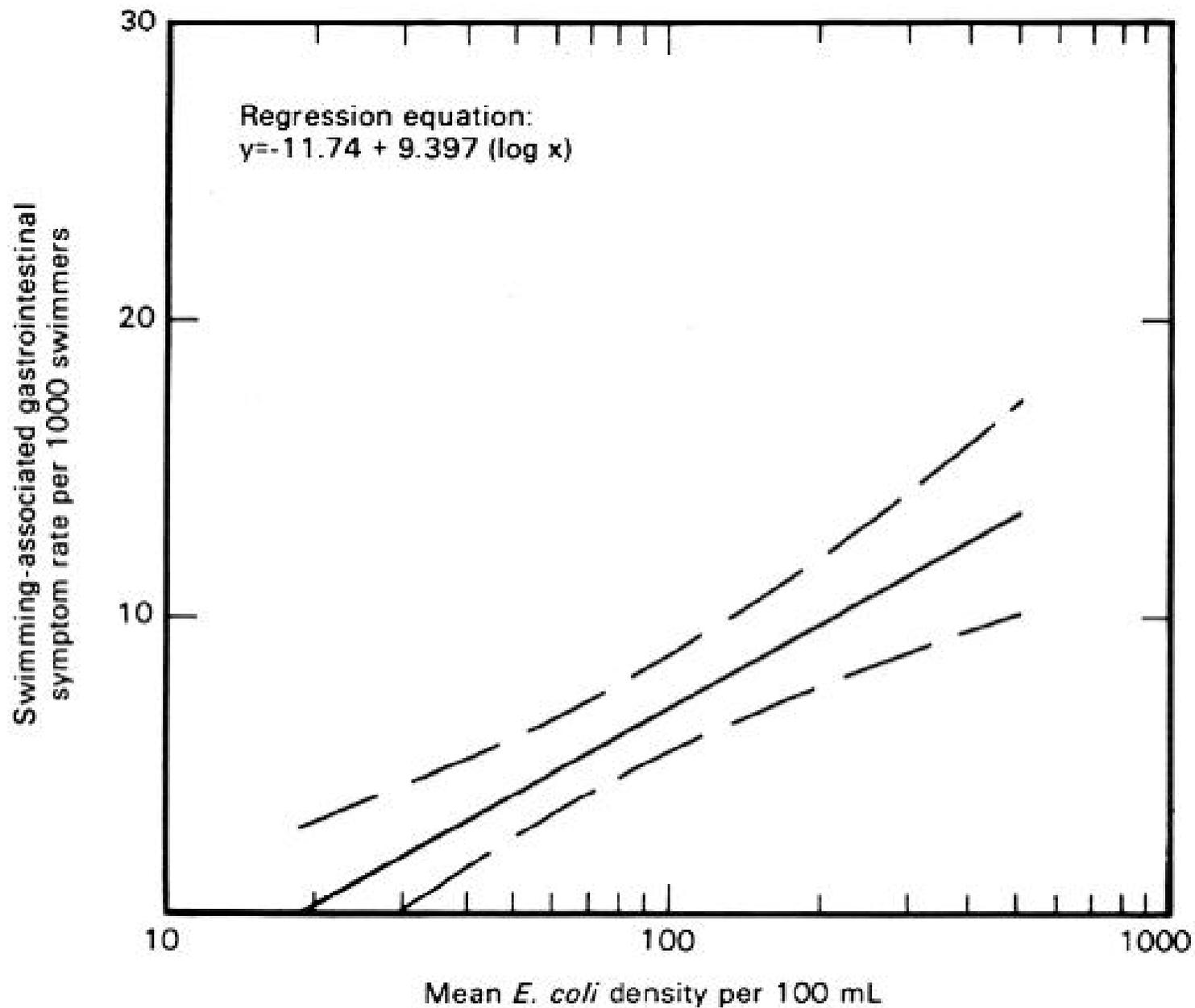
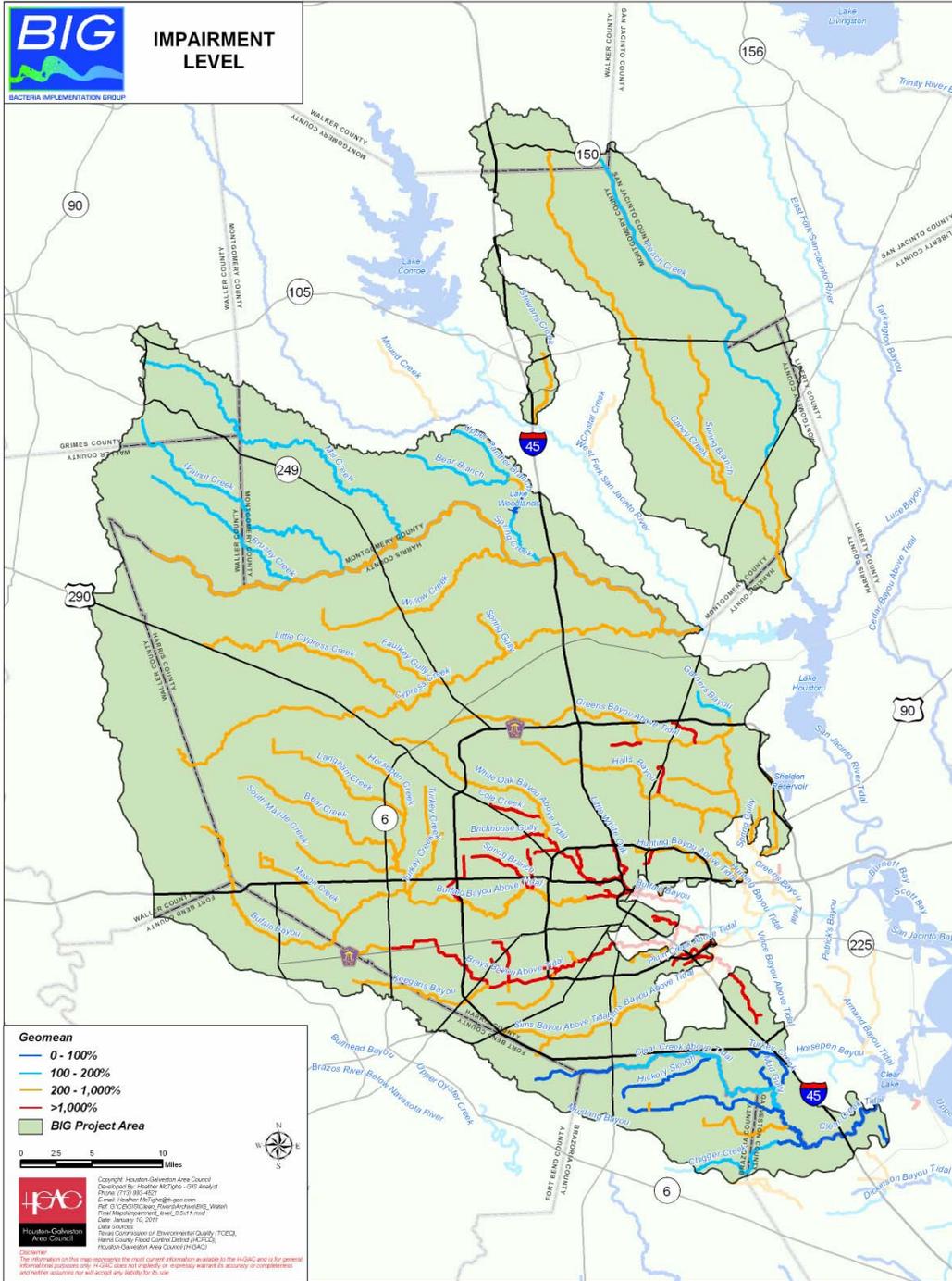


Figure 4. Criterion for estimating swimming-associated gastrointestinal illness rate from the geometric mean density of *E. coli* per 100 mL in freshwater samples.



IMPAIRMENT LEVEL



Geomean

- 0 - 100%
- 100 - 200%
- 200 - 1,000%
- >1,000%

BIG Project Area

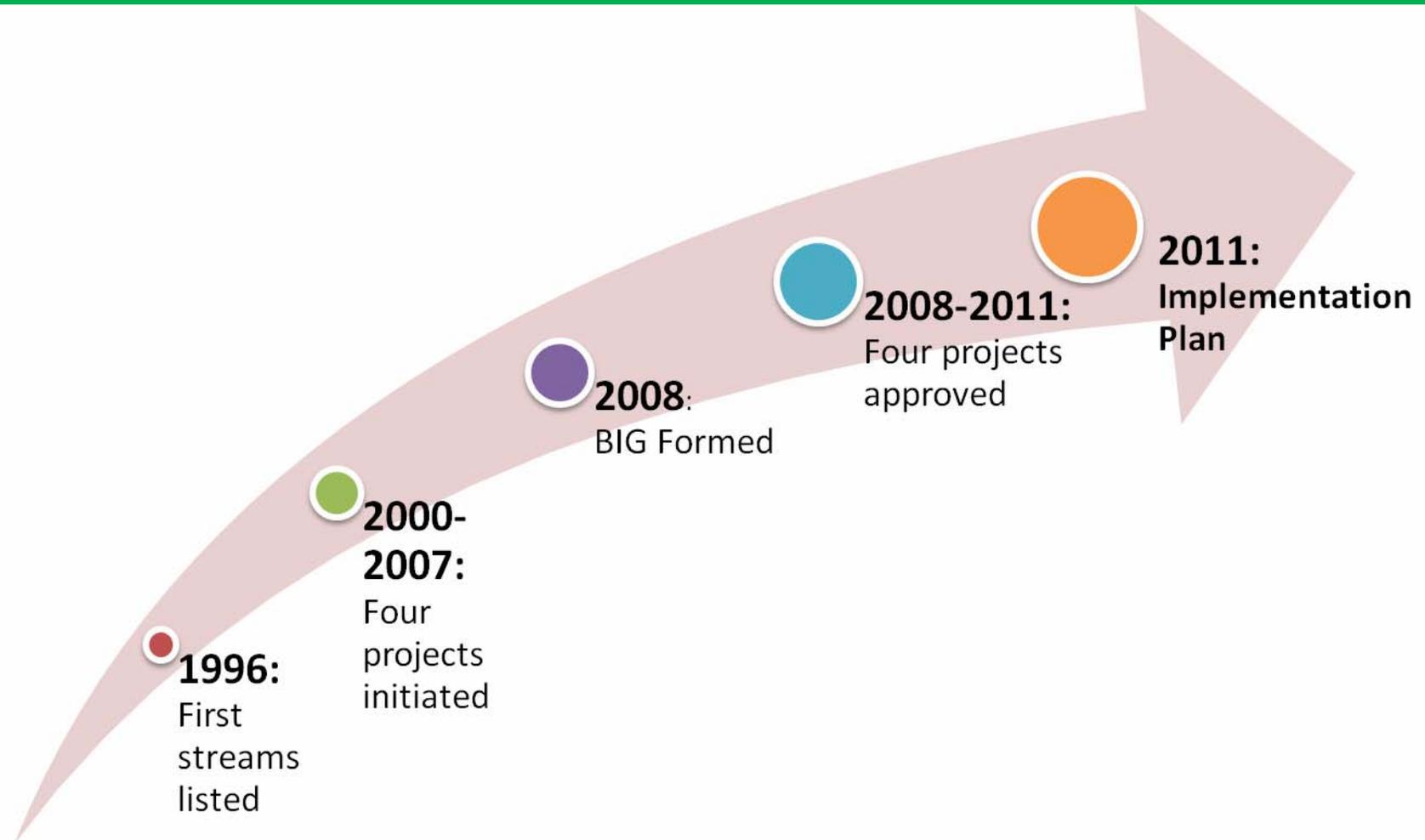
HGC
Houston-Galveston Area Council

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 Ref: GIS/CDD/CR/Case_Planet/Archives/SLC_Vision
 Final Map/Impairment_Level_2011.mxd
 Date: January 10, 2011
 Data Sources: USGS National Hydrography Dataset
 Harris County Flood Control District (HCFCD)
 Houston-Galveston Area Council (HGCAC)

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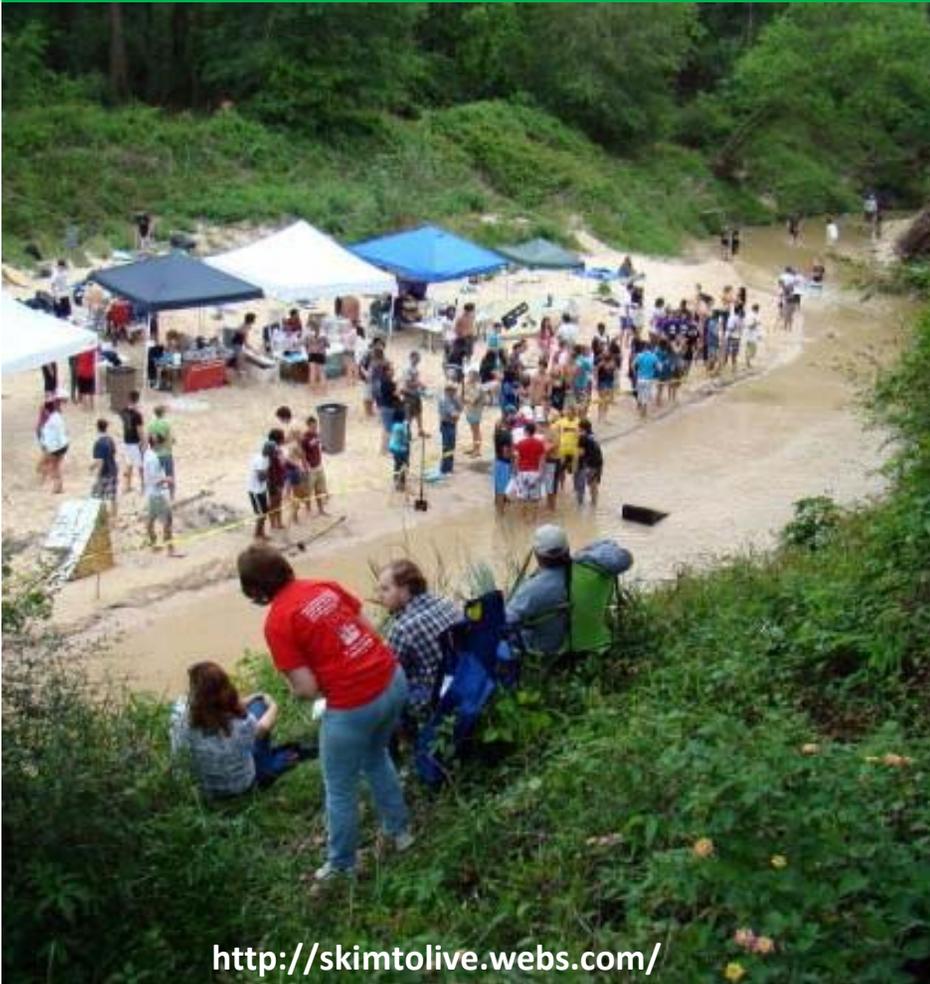


Timeline





Topics



- The Bacteria TMDLs: The Problem
- **Implementation Plan: The Solution**
- What is next?



on Kelling
Agriculture Business
Executive Implementation Group

Michael Mooney
Lake Meade TMC
Executive Implementation Group

Jim Robertson

Michael G. Pope

Craig T. Moske

Carol Ellinger
Municipal
Executive Implementation Group



Agriculture

Animal

Construction ● ● ● ● ●

- Build Retention detention ponds to built and immediately updated at the beginning of a project
- Introduce the use of capture basins
- Require rain to not be driveway at construction sites
- Require trucks be washed down when leaving construction sites
- Implement EPA's proposed oil and grease guidelines from a construction site



Considerations

Human

Non-Human

Controllable

Less Controllable

Less Expensive

Expensive

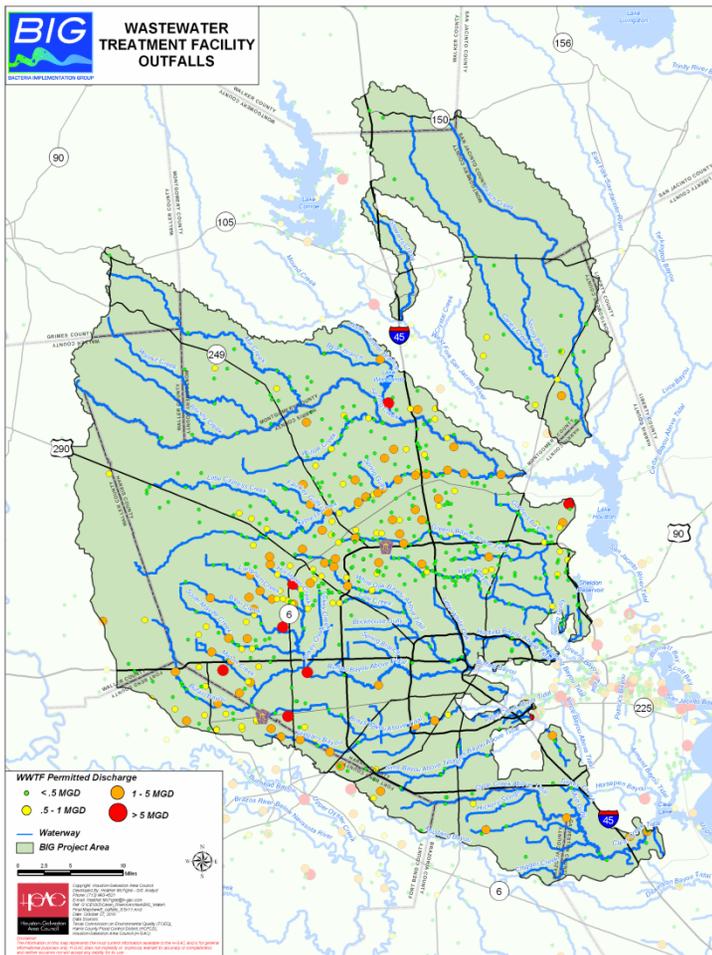
Effective

Ineffective

Known

Unknown

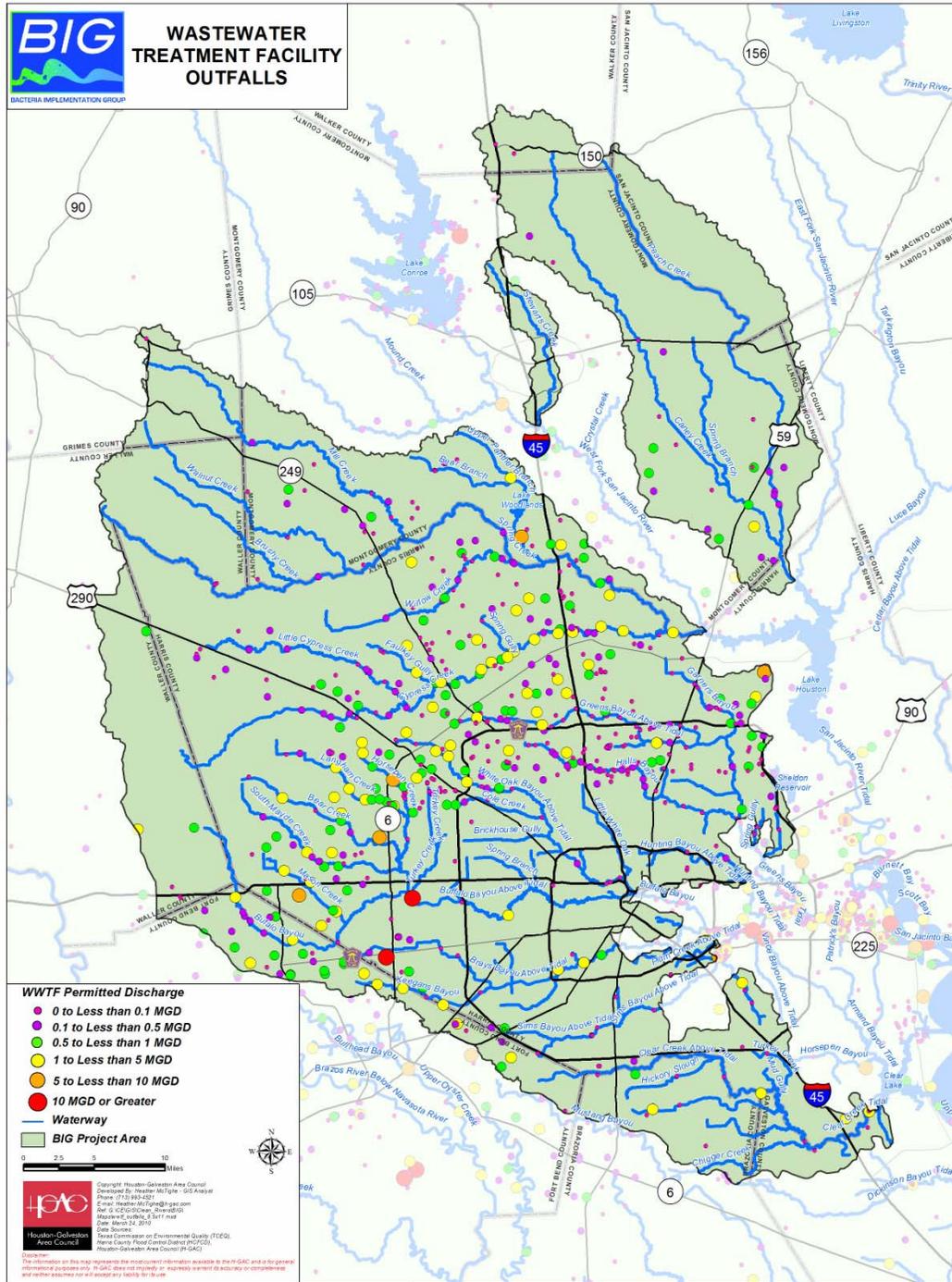
Wastewater Treatment Facilities



- About 600 facilities
- Texas: Last state to require bacteria testing
- Recommendations:
 - Testing
 - Limits
 - ID and fix deficient facilities



WASTEWATER TREATMENT FACILITY OUTFALLS



WWTF Permitted Discharge

- 0 to Less than 0.1 MGD
- 0.1 to Less than 0.5 MGD
- 0.5 to Less than 1 MGD
- 1 to Less than 5 MGD
- 5 to Less than 10 MGD
- 10 MGD or Greater

- Waterway
- BIG Project Area



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 Created by: Heather McFadden - GIS Analyst
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Houston-Galveston Area Council
 Texas Commission on Environmental Quality (TCEQ)
 Harris County Flood Control District (HCFCD)
 Houston-Galveston Area Council (HAC)

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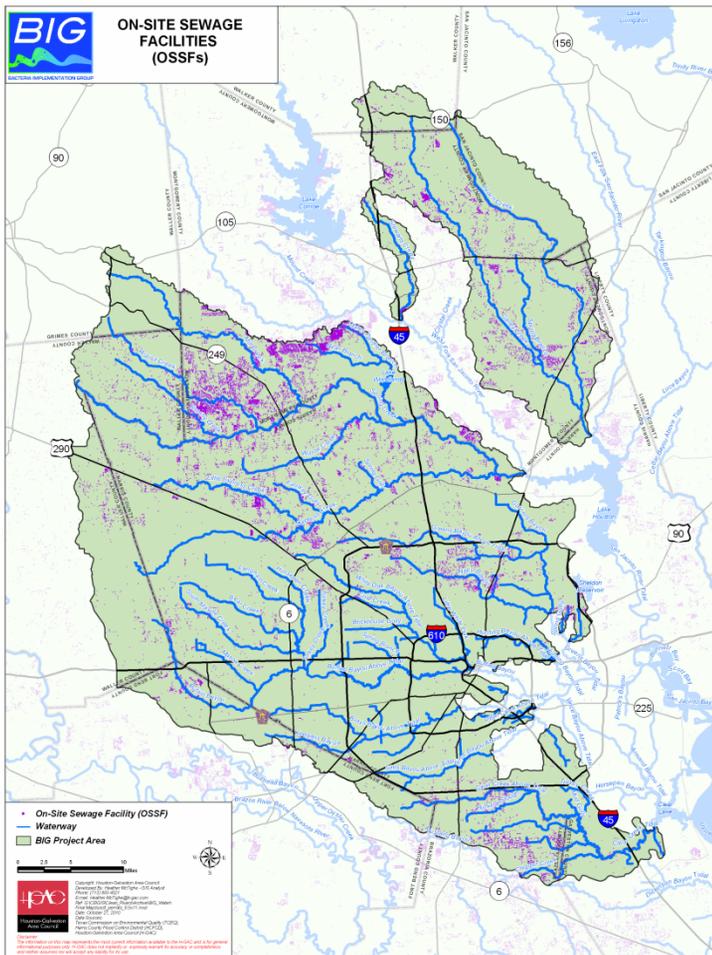
Sanitary Sewer Systems



- More than 77 spills and 700,000 gallons reported/month
- Recommendations:
 - Asset management
 - Subscriber system controls

City of Houston photo

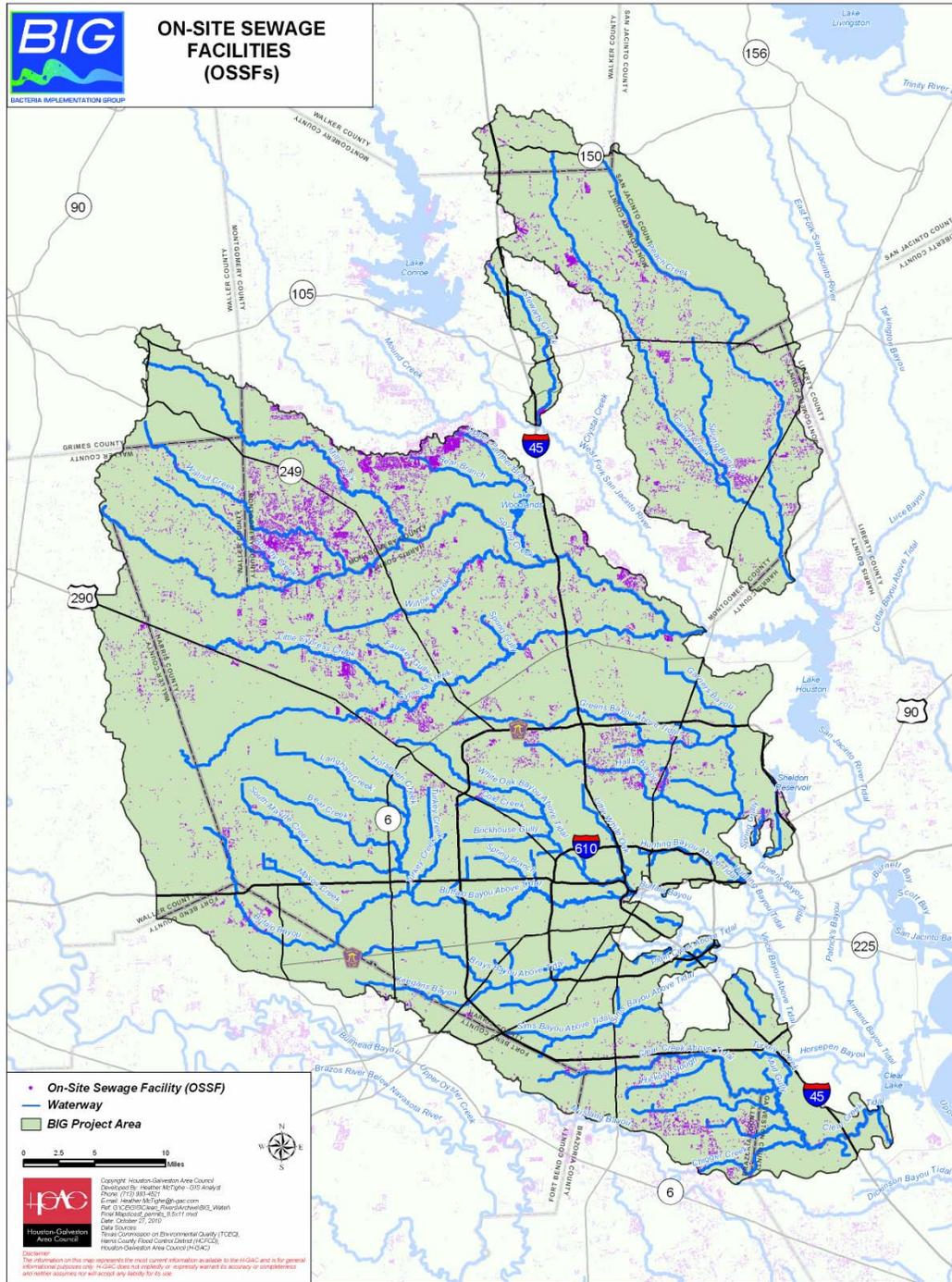
OSSF/Septic Tanks



- About 75,000 facilities
- Recommendations:
 - Inventory
 - ID and fix failing systems
 - Education



ON-SITE SEWAGE FACILITIES (OSSFs)



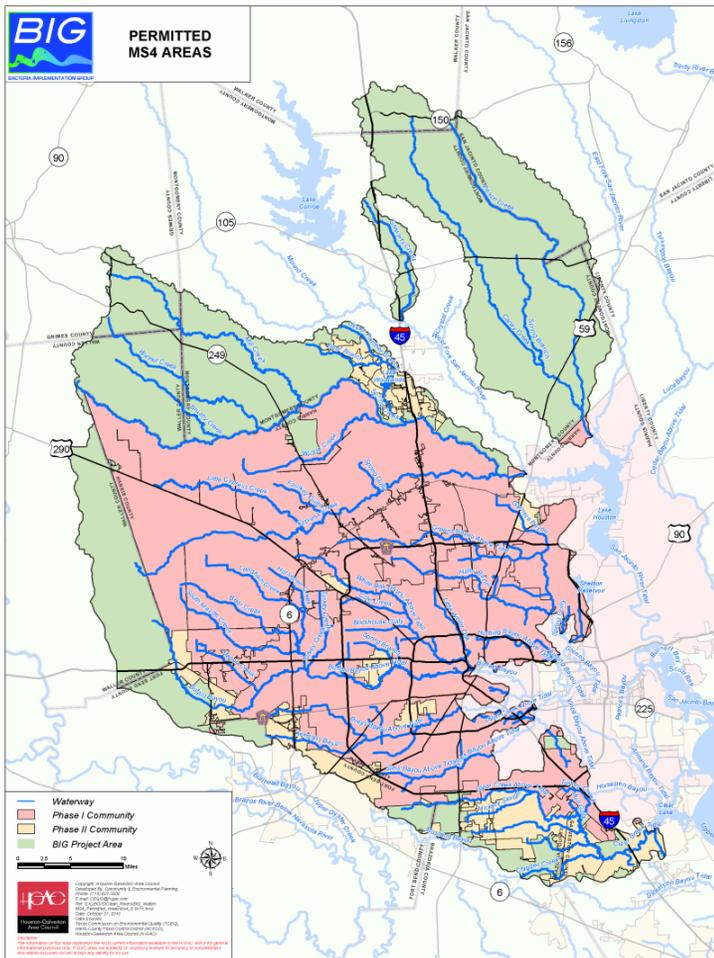
• On-Site Sewage Facility (OSSF)
 — Waterway
 ■ BIG Project Area

0 2.5 5 10 Miles

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 Phone: (713) 863-4521
 Email: Jennifer.McEneaney@hgac.com
 File: C:\EGIS\Draws_Power\Archives\02_Water
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 Date: October 27, 2010
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Storm water & land development



- About 89 MS4 Permits
- Recommendations:
 - Continue existing programs
 - Coordinate, expand, enhance
 - MUD financing for water quality features

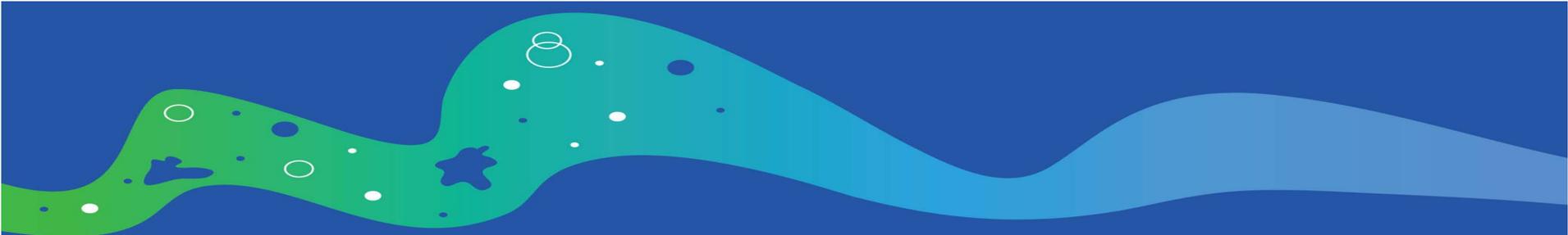


Construction



Harris County photo

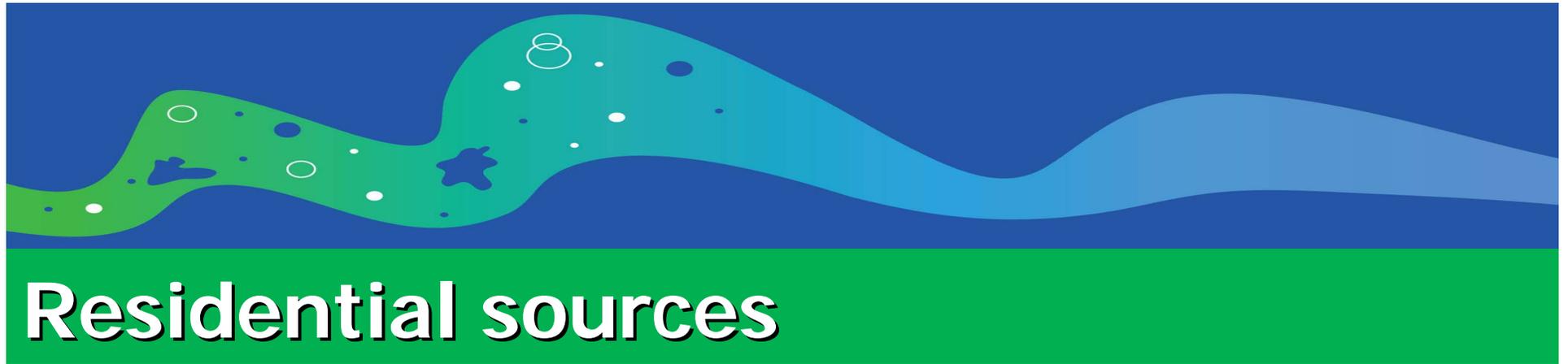
- New limits proposed by EPA
- Recommendation:
 - Increase compliance
 - Public education
 - Training



Illicit discharges & dumping



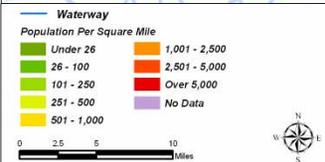
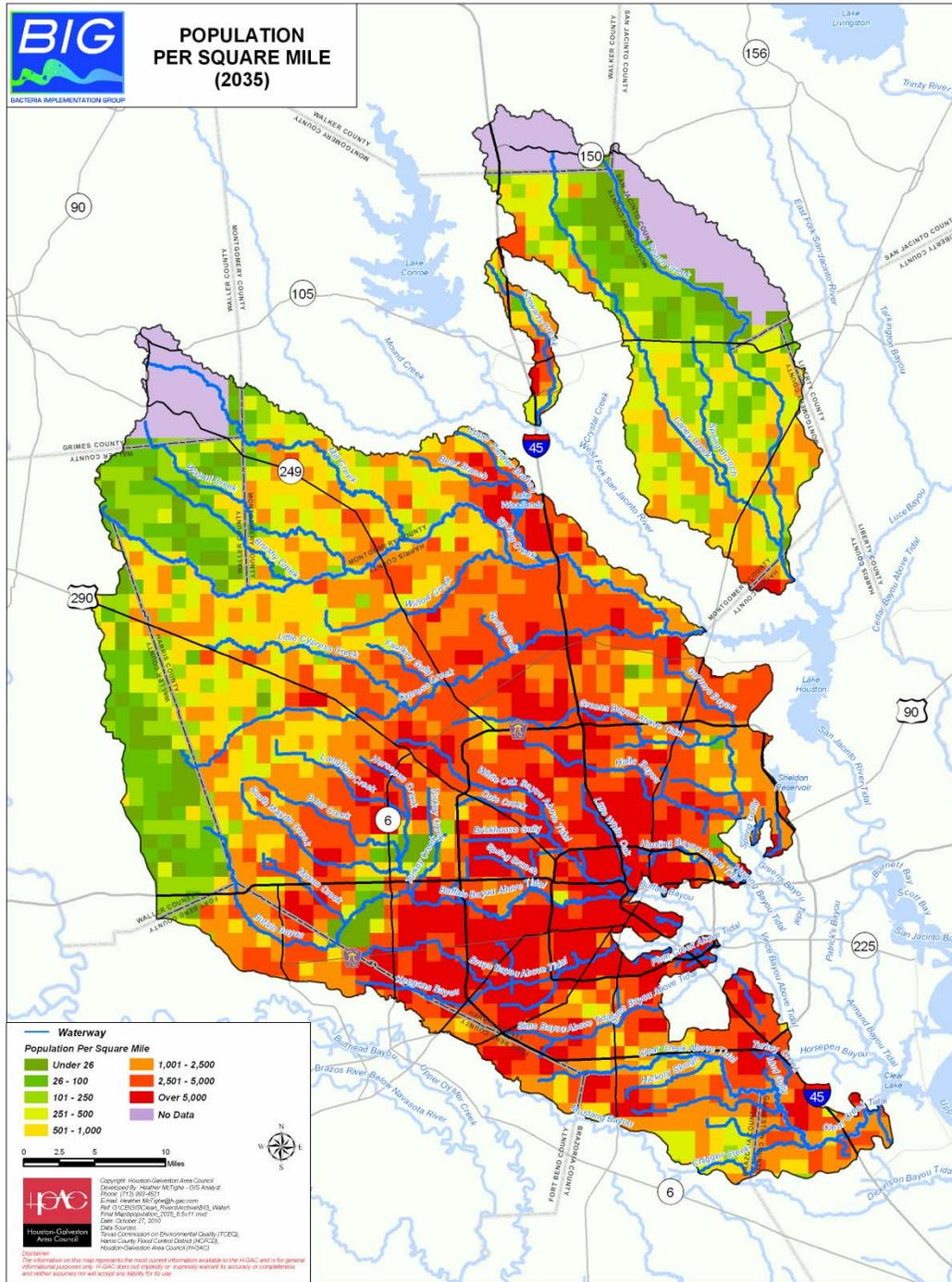
- Honey trucks are a widespread concern
- Recommendations:
 - Find and stop dumping
 - Strengthen rules



- 3.5 Million more people in region by 2035
- Recommendations:
 - Expand public education programs



POPULATION PER SQUARE MILE (2035)

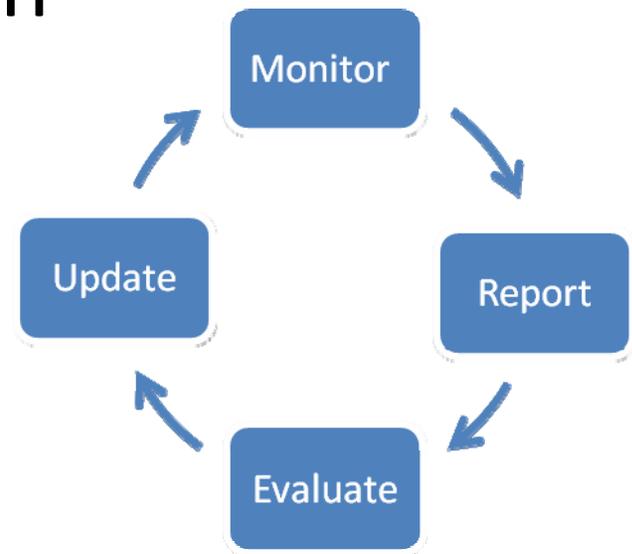


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Additional Actions

- Monitoring
- Plan revision
- Research



Stakeholder and Public Involvement



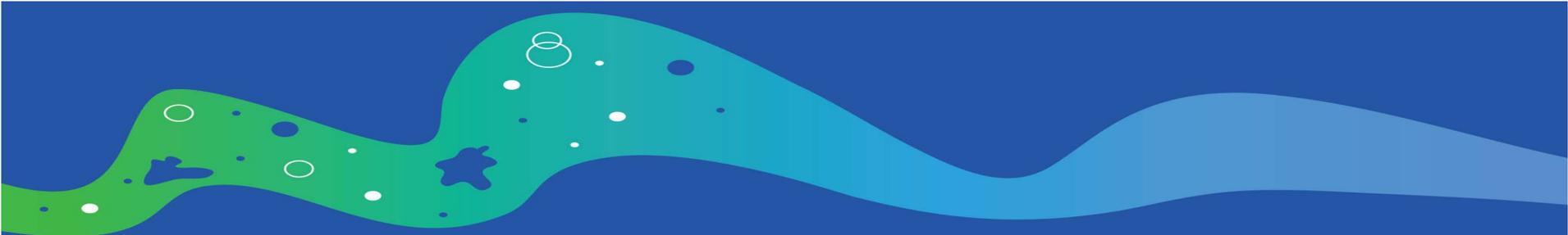
Topics



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Resolutions of Support



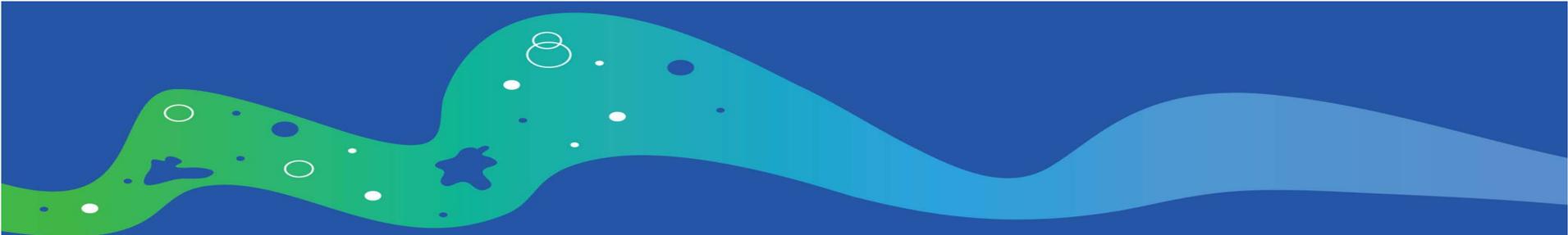


Already Started

- WWTF Records
- Consider regionalization
- SSS Workshops
- OSSF Inventory & QAPP
- OSSF Training (TREC)
- Subscriber systems
- Restructure penalties
- Model MS4s: workshops & website
- Developer reimbursement
- Increased participation in Ag programs
- Sophisticated WQ analysis
- Test for additional parameters
- Non-ambient regional QAPP & database
- Activity database



Come celebrate with us!



Topics



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