

Dec. 8, 2015

Highland Bayou Watershed Workgroup Kick-off

**MOSES-
KARANKAWA
BAYOUS
ALLIANCE**

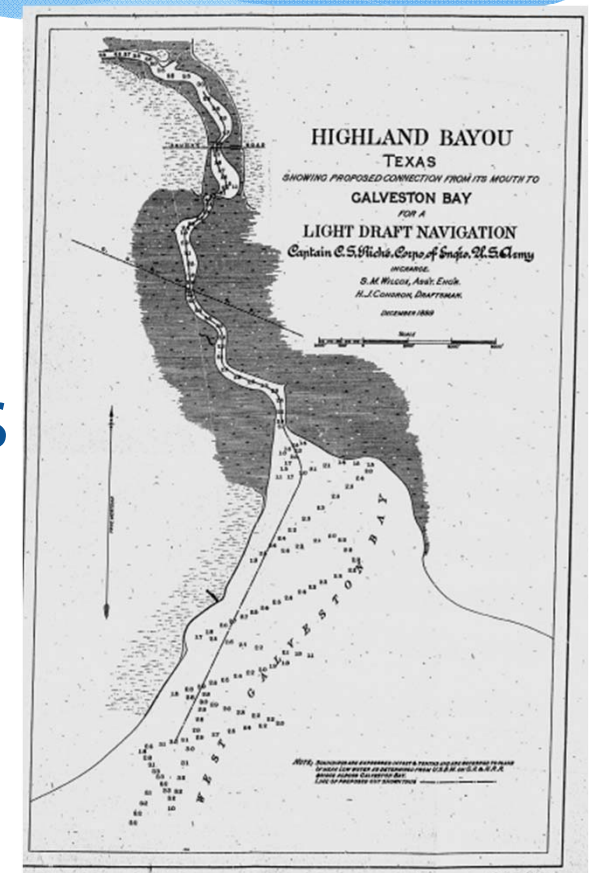
 **AgriLIFE EXTENSION**
Texas A&M System

 **Sea Grant**
Texas

 **TEXAS COASTAL
WATERSHED
PROGRAM**

Agenda

- * Welcome
- * What is in our Bayous?
- * The role for communities
- * The WPP approach
- * Next Steps



Welcome!

Highland Bayou Watershed Protection Plan Project Team

- * Steven Mikulencak, Program Specialist
- * Celina Lowry, Project Associate



Introductions

Please Share...

Your name

Your Affiliation

What you do

What's in the matter with Highland Bayou?

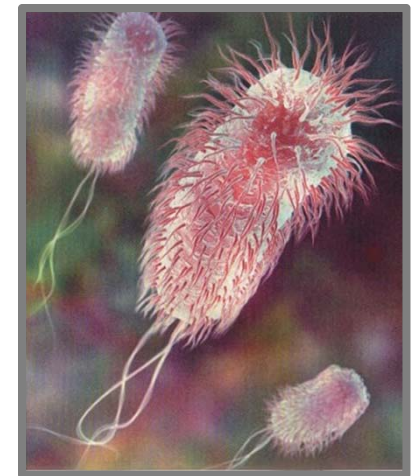
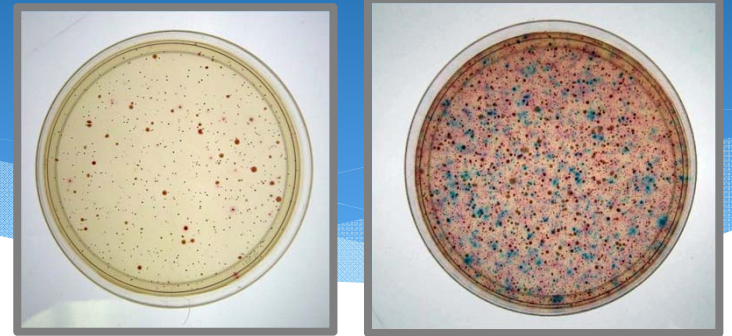
What's in the Water:
High Levels of Bacteria

What's not in the Water:
Healthy Levels of Oxygen

Why Bacteria Matters

Toxin can cause

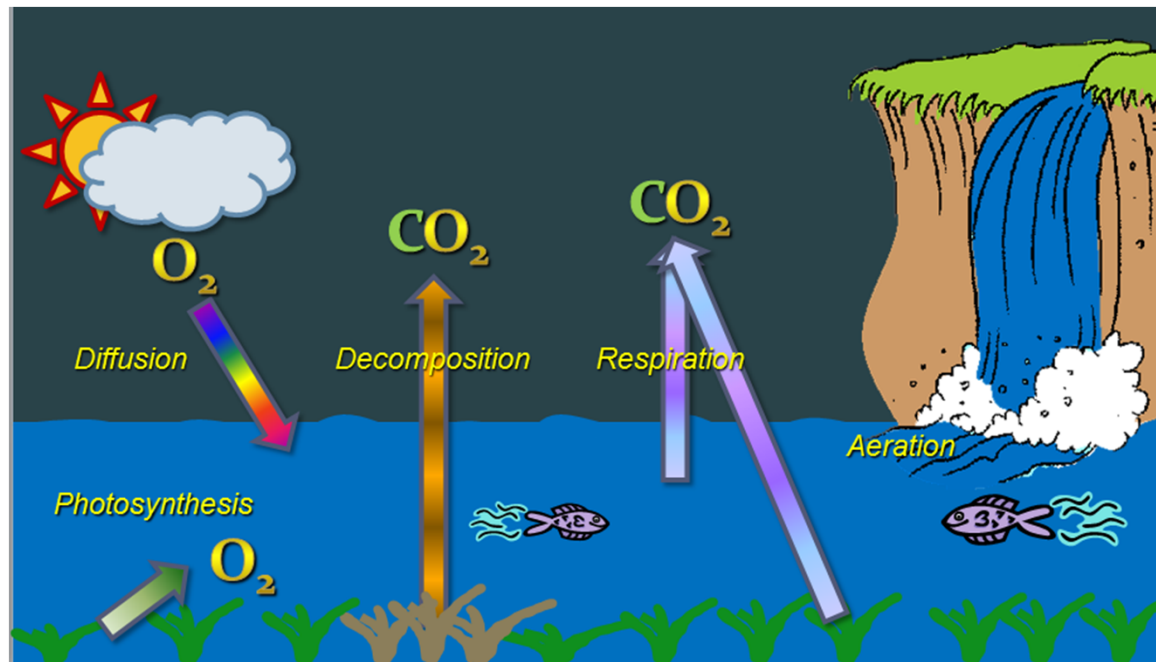
- Diarrhea & Cramps
 - The worst infections (2% - 7%) will result in kidney failure, need for dialysis
 - Take 2 – 4 days for symptoms to show
 - Treatment last 5 – 10 days
 - High risk populations are children and elderly
-
- Contact via swimming, swallowing, or nose and sinus cavities





Why Low Dissolved Oxygen Matters

Dissolved Oxygen is a good indicator of a water body's ability to support aquatic life

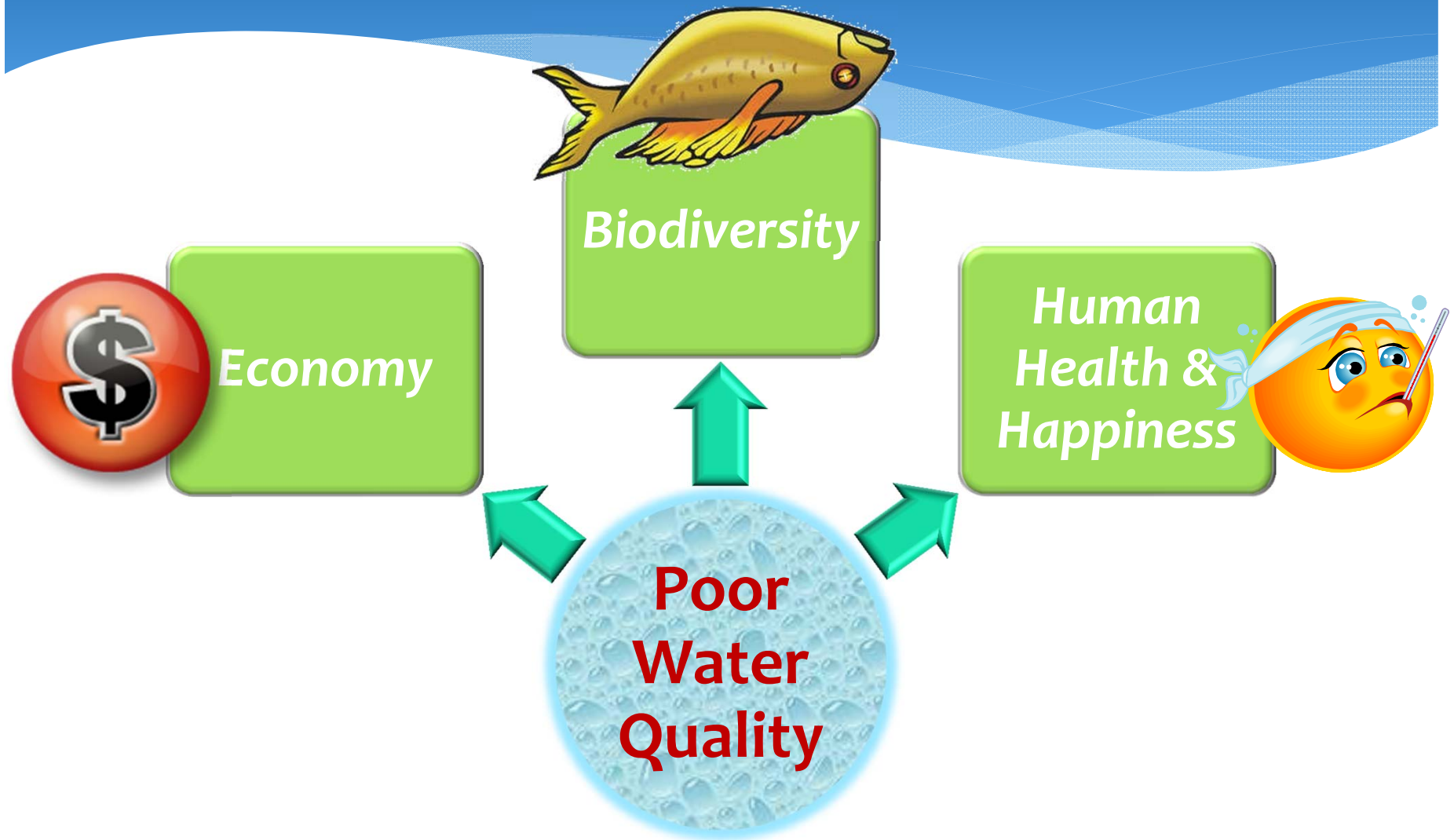




AUGUST 24, 2011 BAYOU VISTA, TEXAS

- **< 0.5 mg/L** **Anoxic – Oxygen dependent animals die**
- **< 3 mg/L** **Hypoxic - Most aquatic organisms cannot survive**
- **4-5 mg/L** **Aquatic organisms become stressed**
- **6-9 mg/L** **Optimal for many aquatic organisms**
- **> 10 mg/L** **Oxygen saturation**

Consequences of Impaired WQ



Bacteria impairment



Dissolved oxygen impairment

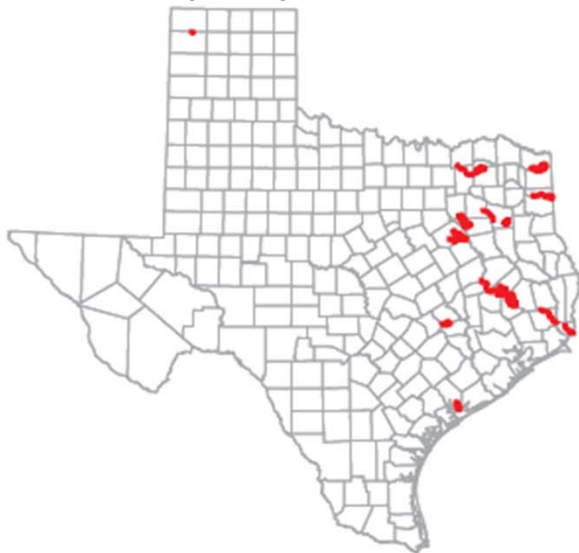


Toxicity impairment

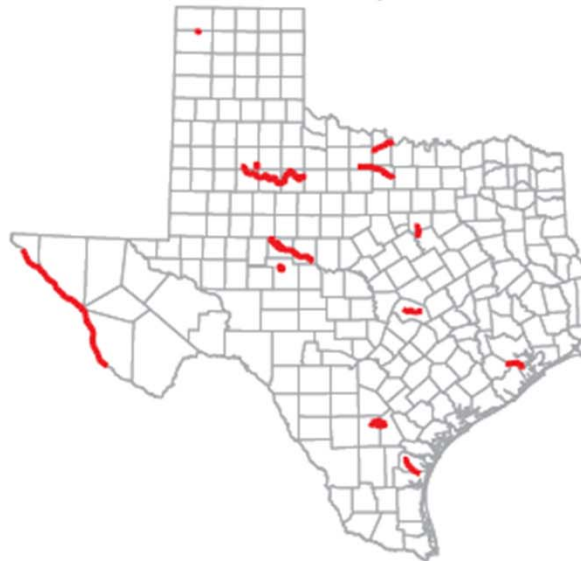


WATER QUALITY IMPAIRMENTS IN TEXAS

pH impairment



Dissolved solids impairment

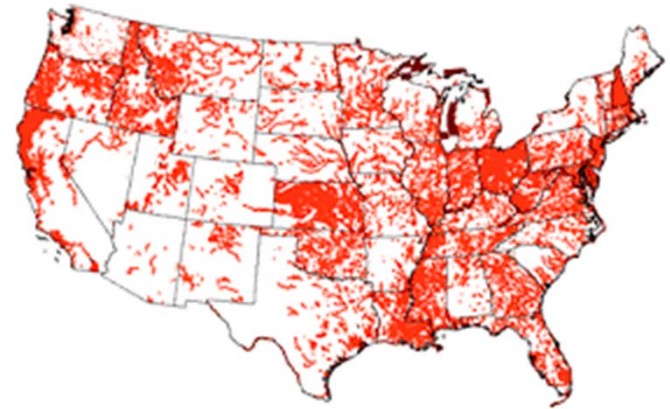


Nitrate and nitrite impairment

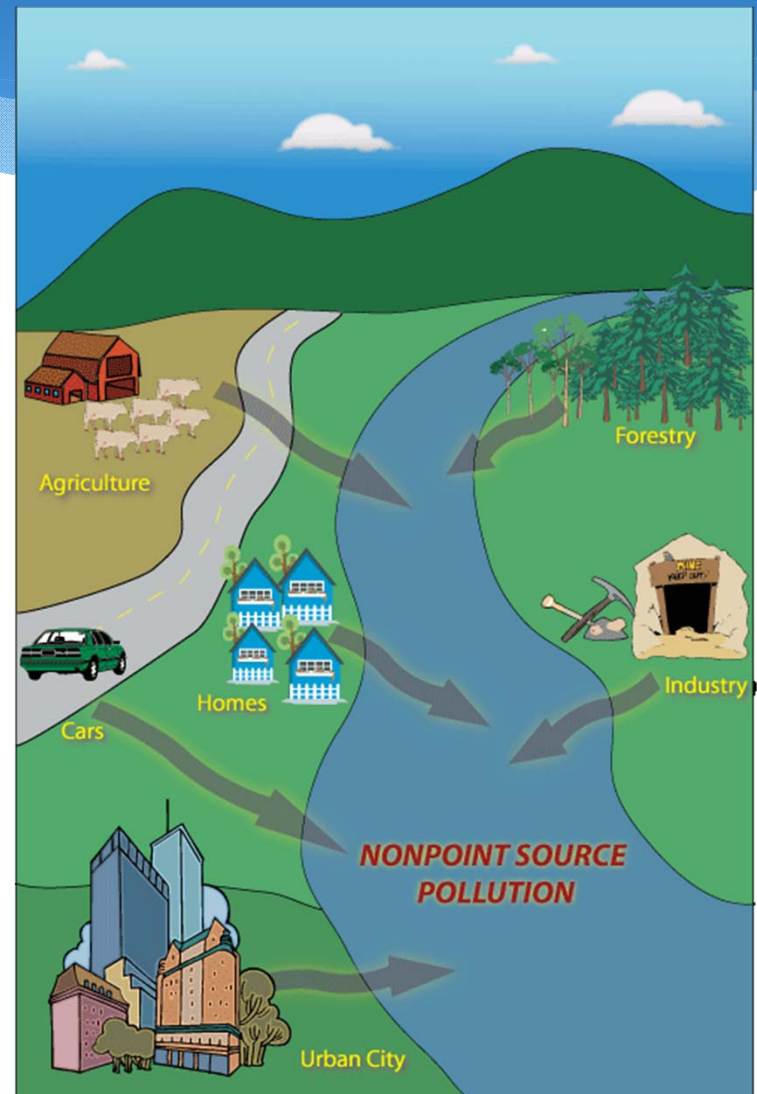
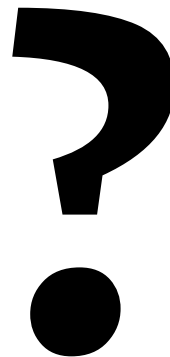


Not Just Texas...

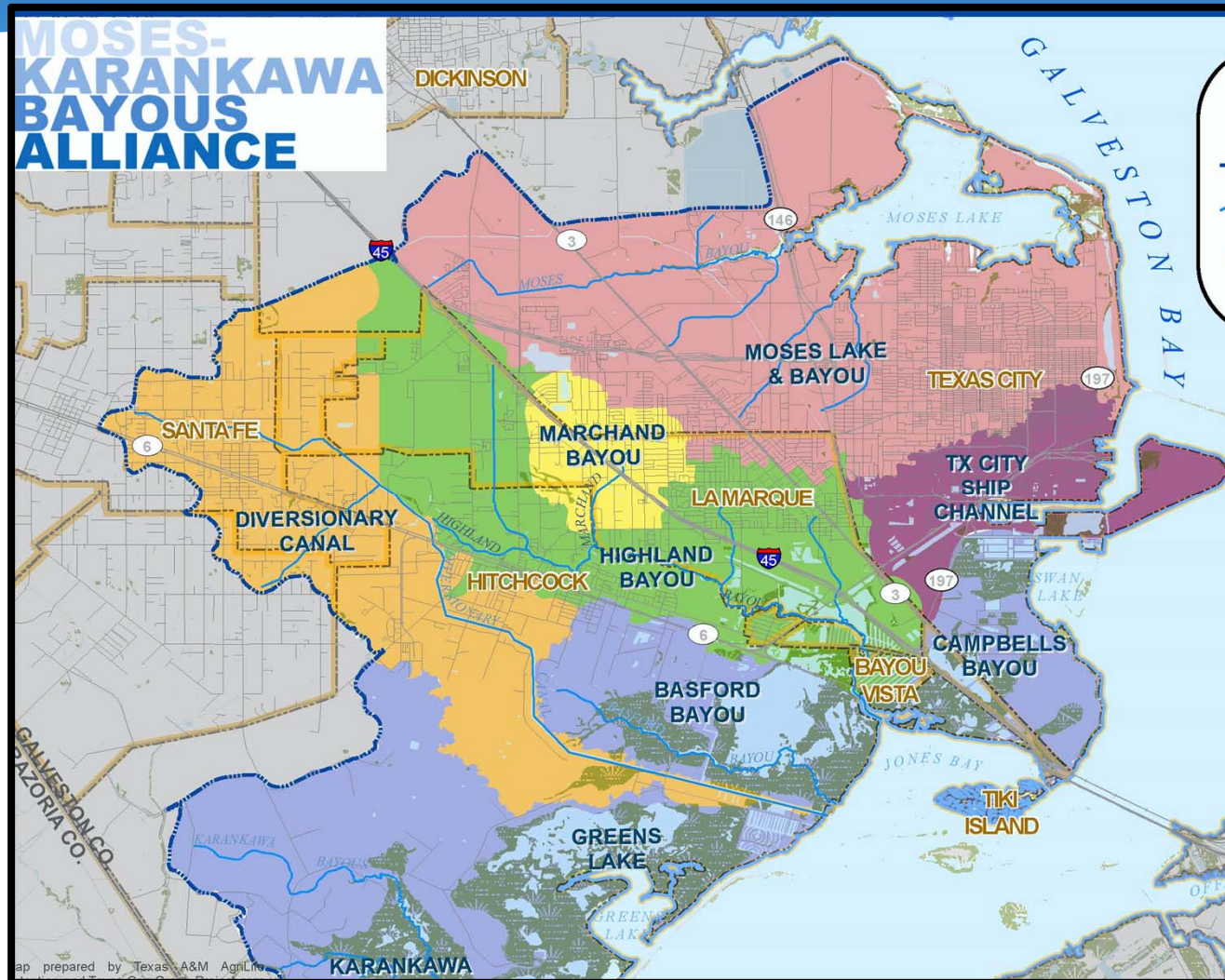
- * According to EPA, **59%** of assessed waters in the USA do not meet water quality standards...
 - * **20,000** individual river segments
 - * **387,000** miles of rivers and shorelines
 - * **10 million** acres of lakes and wetlands
- * Bacteria, nutrients, sediment are main pollutants
- * **218 million** people live within **10 miles** of these polluted waters!



Point Source & Non-Point Source



A Watershed Approach



The WPP approach

- Community driven
- A coordinated framework
- Defines priority management strategies
- Holistic & Long-term
- Is voluntary
- Relies heavily on stakeholders
- Is a vehicle for requesting funding & grants

WPPs Across Texas



What does this have to do with why
you're here today...



What does this have to do with why you're here today...

Highland Bayou is a 303d waterway.

Help us identify management measures that
work for Highland Bayou Communities

Identify possible sources and possible solutions

Over time, build partnerships and a vision

Our Role (Texas A&M)

Prepare the Plan

- Research

- Summarize

- Write

- Incorporate Public Input

Outreach

- Educate

- Facilitate

- Gather Input

WPP Milestones

Feb 17- A community-wide workshop by Texas Watershed Stewards

April 15- Draft WPP for Public Comment

May 31- Final Draft WPP

Partners Will Make this Work



A PROGRAM OF THE TCEQ



City of Bayou Vista
"Where Living on the Water is a Way of Life"

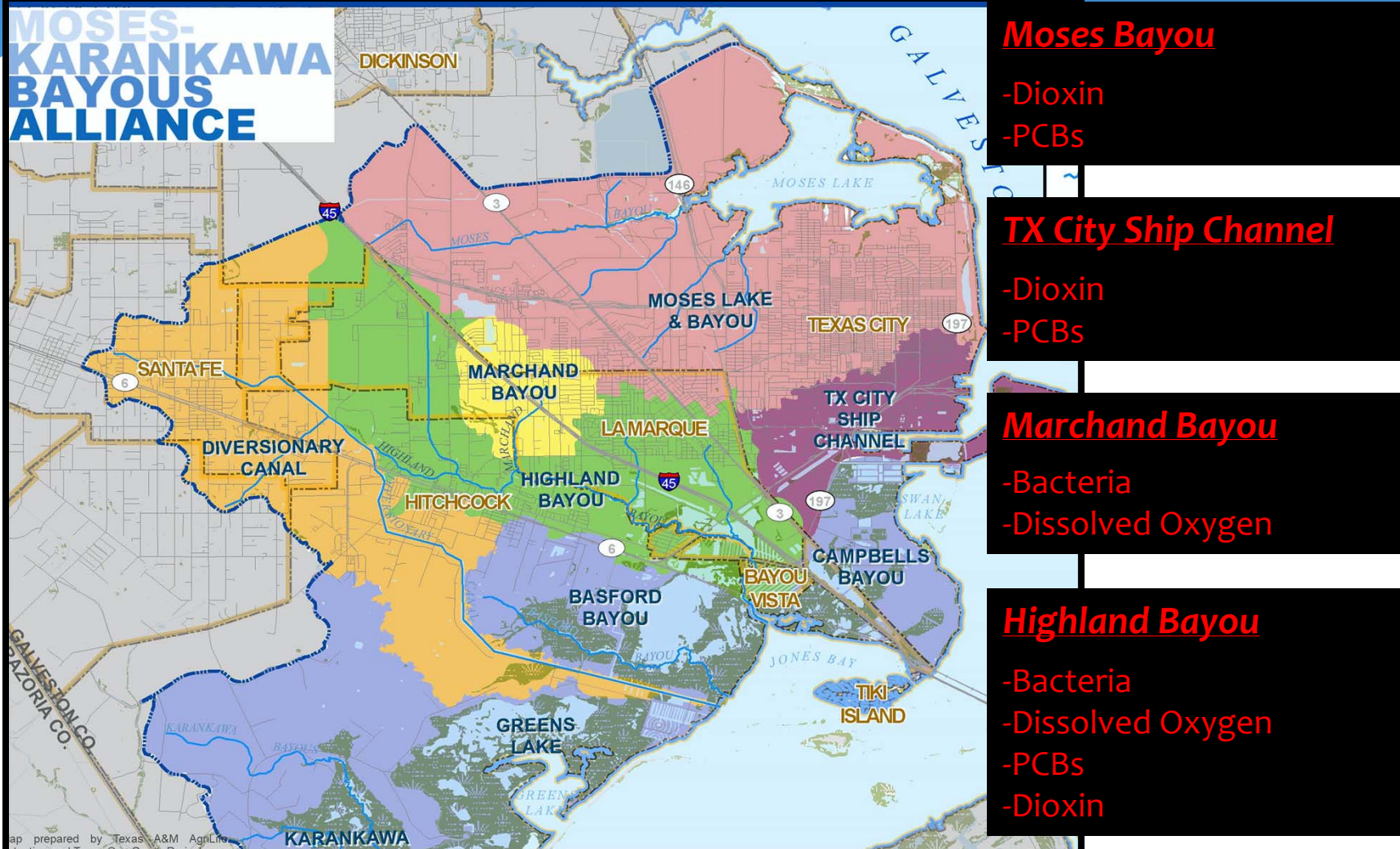


SCENIC
GALVESTON, Inc.

Drainage
District No. 2



The Future is Partnerships & Communication



What will working together look like

Meetings to ...

- Identify Preferred Recommendations
- Estimate Costs
- Mark Possible Funding Sources
- Create a Timeline
- Advisory & Technical Support

Design & Structural BMPs



CONSTRUCTION



OSSF



MS4 STORMWATER



AGRICULTURAL



URBAN



**RESIDENTIAL/
SMALL-ACREAGE**

Non-Structural Practices



Let's take a look at what others have done

Dickinson Bayou (DickinsonBayou.org)

Plum Creek (PlumCreek.tamu.edu)

Pecos River (PecosBasin.tamu.edu)

HGAC's B.I.G I-Plan

Next Steps...

Calendar

Stakeholder Outreach

Questions from the group?

- Why bacteria and nutrients matter
- Non-point & point sources
- A watershed approach
- Our role and your role
- Planning objectives
- Spring calendar
- Planning next steps