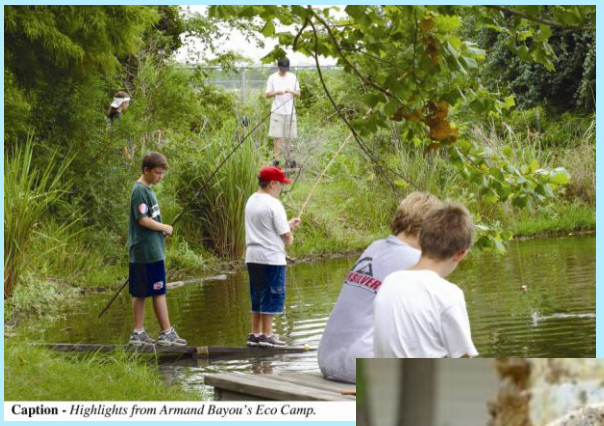
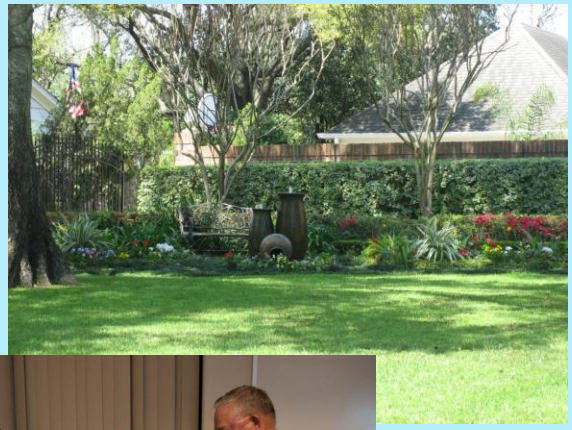
Armand Bayou I-Plan

Education, Outreach, Recreation and Residential Work Group

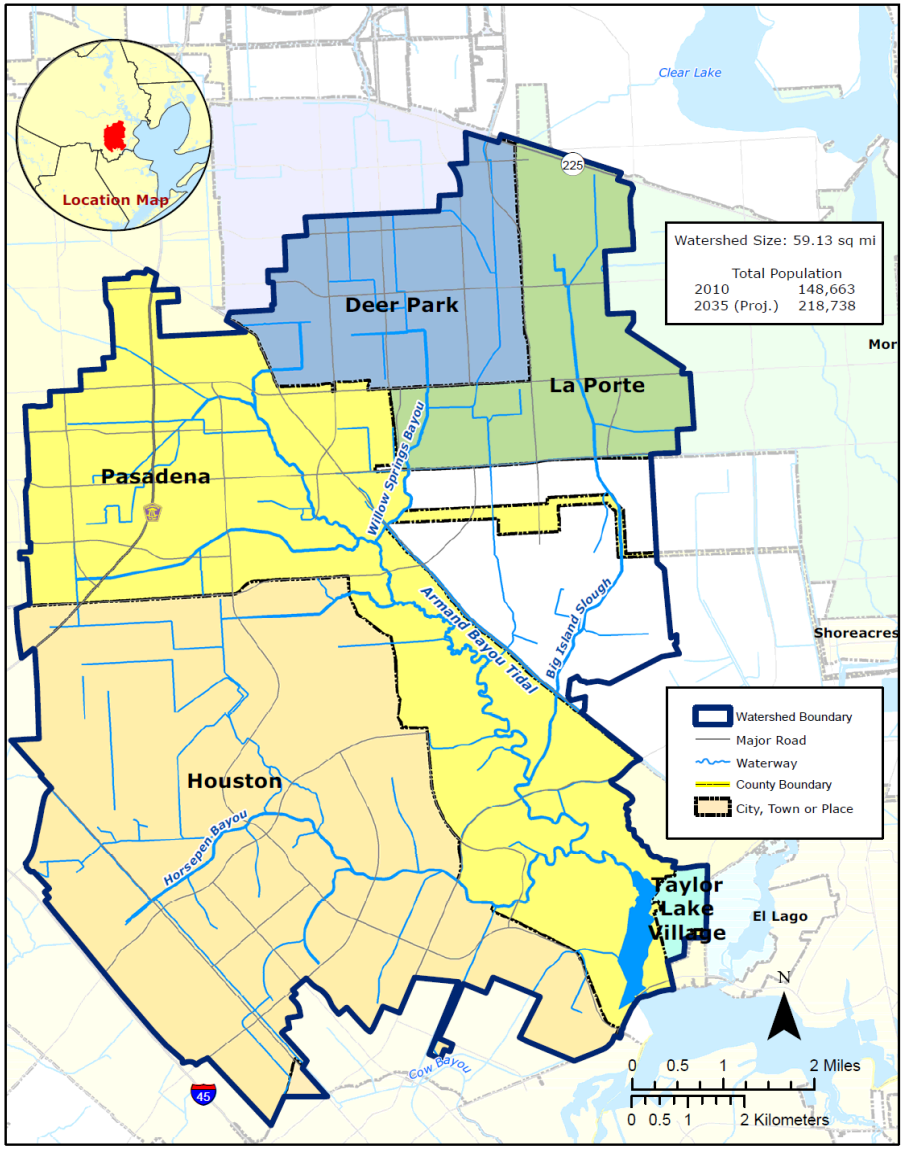


Caption - *Highlights from Armand Bayou's Eco Camp.*



Aubin Phillips, Houston Galveston Area Council

Jurisdictions Involved



Harris County

City of Pasadena
City of La Porte
City of Houston
City of Deer Park
Taylor Lake Village

Ellington Air Field
Johnson Space Center
Armand Bayou Nature Center
University of Houston Clear Lake

Issues Raised

- Residential Lawns
- Large lots with livestock (horses, chickens)
- Dog waste
- Fertilizer and trash from yards
- Boat sewage

Option to Join the BIG I-Plan

- The Coordination Committee has discussed the possibility of joining the BIG I-Plan as opposed to creating their own I-Plan
  - This would require having a completed TMDL and could be discussed at the next BIG annual meeting in May 2014
- The Coordination Committee has also discussed using the BIG I-Plan as a “menu”

Examples From Other Plans

- **Expand Homeowner Education Efforts Throughout Project Area**
  Sub-activity 8.1.1: Continue or begin a homeowner education program based on existing models
  Sub-activity 8.1.2: Conduct pilot studies to evaluate results of education efforts
- **Implementation Activity 3.4**: Continue and Expand Stream Team Volunteer Sampling
- **Implementation Activity 5.4**: Expand and Install Dog Parks
- **Implementation Activity 5.7**: Promote Domestic Oil Recycling Programs
- **Implementation Activity 5.8**: Hold Household Hazardous Waste Collection Event

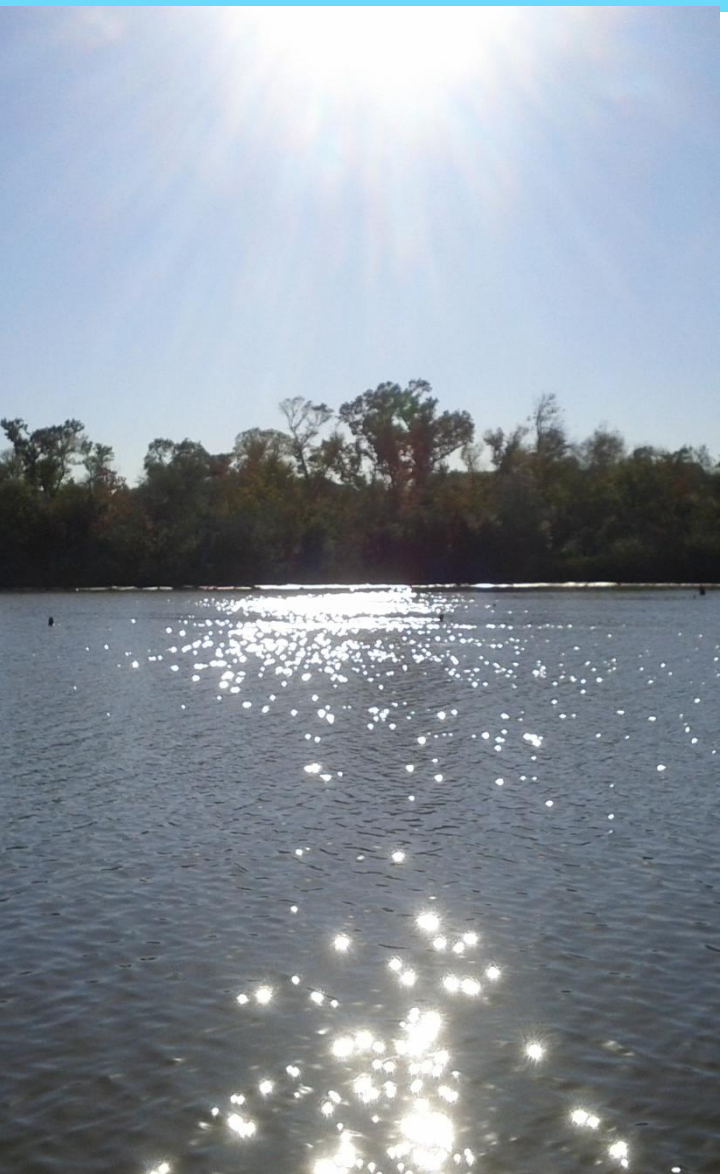
Example From Other Plans

- **Research Priority 10.1:** Evaluate the Effectiveness of Storm Water Implementation Activities
  Research Priority 10.2: Further Evaluate Persistence and Regrowth
  Research Priority 10.3: Determine Appropriate Indicators
  Research Priority 10.4: Additional Research Topics

Example 9 Element Table

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
	Causes/Sources	**Implementation Activities and Targeted Critical Areas**	**Estimated Potential Load Reduction**	**Technical and Financial Assistance Needed for Each Activity**	**Education Component for Each Activity**	**Schedule of Implementation for Each Activity**	**Interim, Measureable Milestones for Each Activity**	**Indicators to Measure Progress**	**Monitoring Component**	**Responsible Entity**
Residential	Nonpoint sources from residential property	**IA 8.1** - Expand homeowner education efforts throughout the BIG project area	Expanded homeowner education efforts are expected to reduce bacteria loading from residential sources by 5%.	Technical- communities will look to existing education programs and materials when developing their own. Financial- funding can be expected to come through a mixture of local and grant funding opportunities.	Homeowner education efforts may include printed materials and other media	Implementation of this activity will begin immediately and will continue for the entire implementation process.	Average 2% annual increase in number of communities participating in new or expanded programs One pilot study in the BIG project area every five years	Progress will be indicated by the number of new or expanded education programs and pilot studies noted in the annual reports	H-GAC staff will collect data from communities through the annual report process. Data collected will include the information distributed or publicized, the method of distribution or publication, the number of individuals or households reached, and the results from pilot studies.	Cities, counties, and special purpose districts: expand bacteria related education efforts and conduct pilot studies to evaluate the results of selected efforts H-GAC: collect and share information on the progress made each year BIG: Evaluate the progress made

Requirements of the Clean Water Act (1972)



- Identify impaired water bodies
- Develop Plans (Total Maximum Daily Loads) to determine extent of problem
- Complete TMDLs and Implementation Plans to bring the water up to standards

Total Maximum Daily Load (TMDL) Has Two Meanings

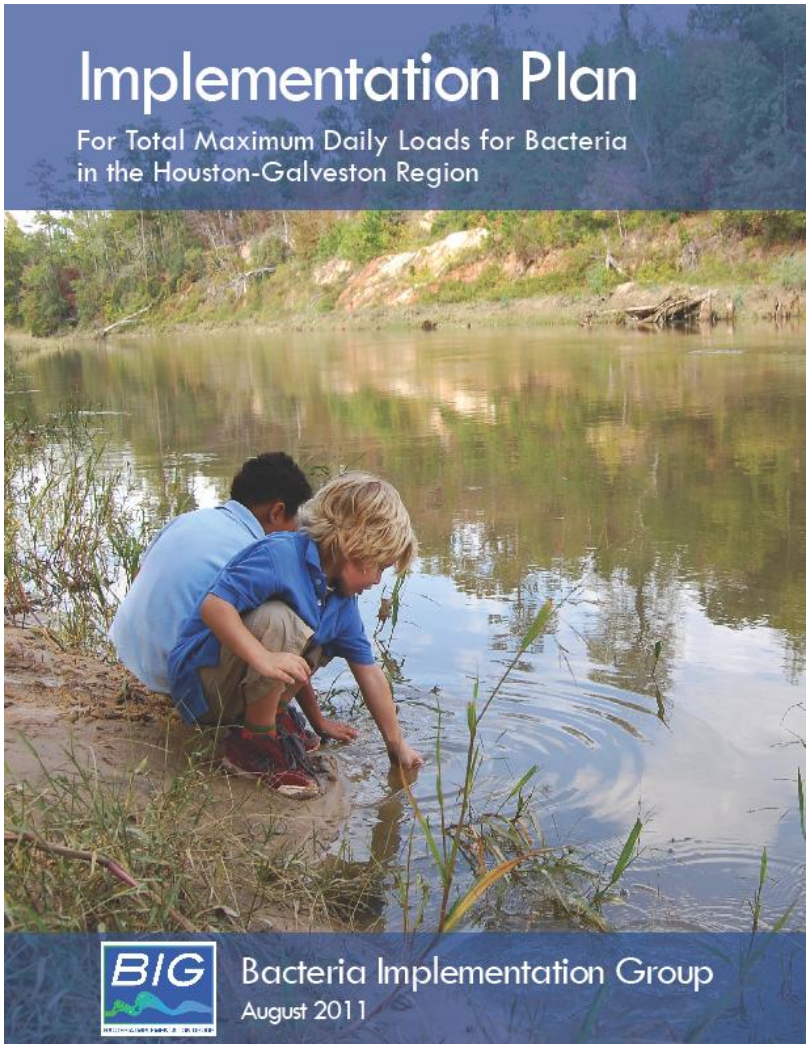
A TMDL is a tool which:

Determines the maximum amount of a Particular pollutant (load) that a water body can absorb and still maintain its standards

A TMDL is also a document submitted to the EPA that:

Identifies the pollutant of concern and its sources, specifies the allowable amount and serves as a framework for corrective action

Elements of an Implementation Plan (I-Plan)

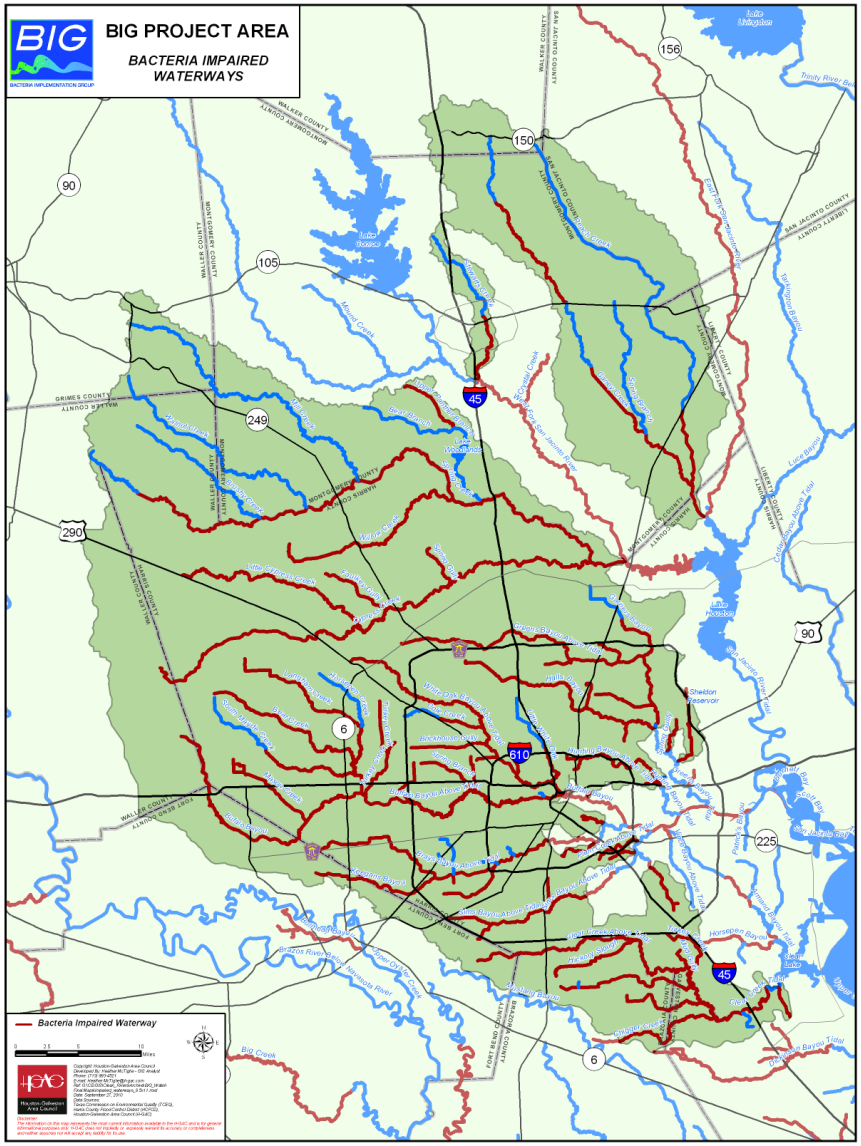


- Management Measures
- Implementation Schedule
- Follow-up Monitoring Plan
- Voluntary Implementation on Non-Point Source Pollution
- Measurable Outcomes

Basic Contents of the Final I-Plan Report

- **Summary of the TMDL**
- **Sustainability** (tracking progress over time)
- **Implementation Strategy** *(adaptive management, check-ins)*
- **Water Quality Indicators** (monitoring results)
- **Management Measures and Control Actions** *(implementation activities)*
- **Communication Strategy** (information out to the public)

Areas Where I-Plans are Completed



Process Conclusions

- Mechanism to address regulated sources
- Mechanism to address complex water quality issues of NPS pollution
- Promote intergovernmental cooperation
- Require community support and input

Project Timeline and Milestones

- ✓ January to April 2013
  - ✓ Coordination Committee Forms
  - ✓ Appoint Work Groups
- ❑ April to May 2013
  - ❑ Work Groups Begin Meeting
  - ❑ Work Groups Develop Recommendations
- ❑ May to August 2013
  - ❑ Report drafting, editing, building support

Thank You!

TCEQ

Houston-Galveston Area Council