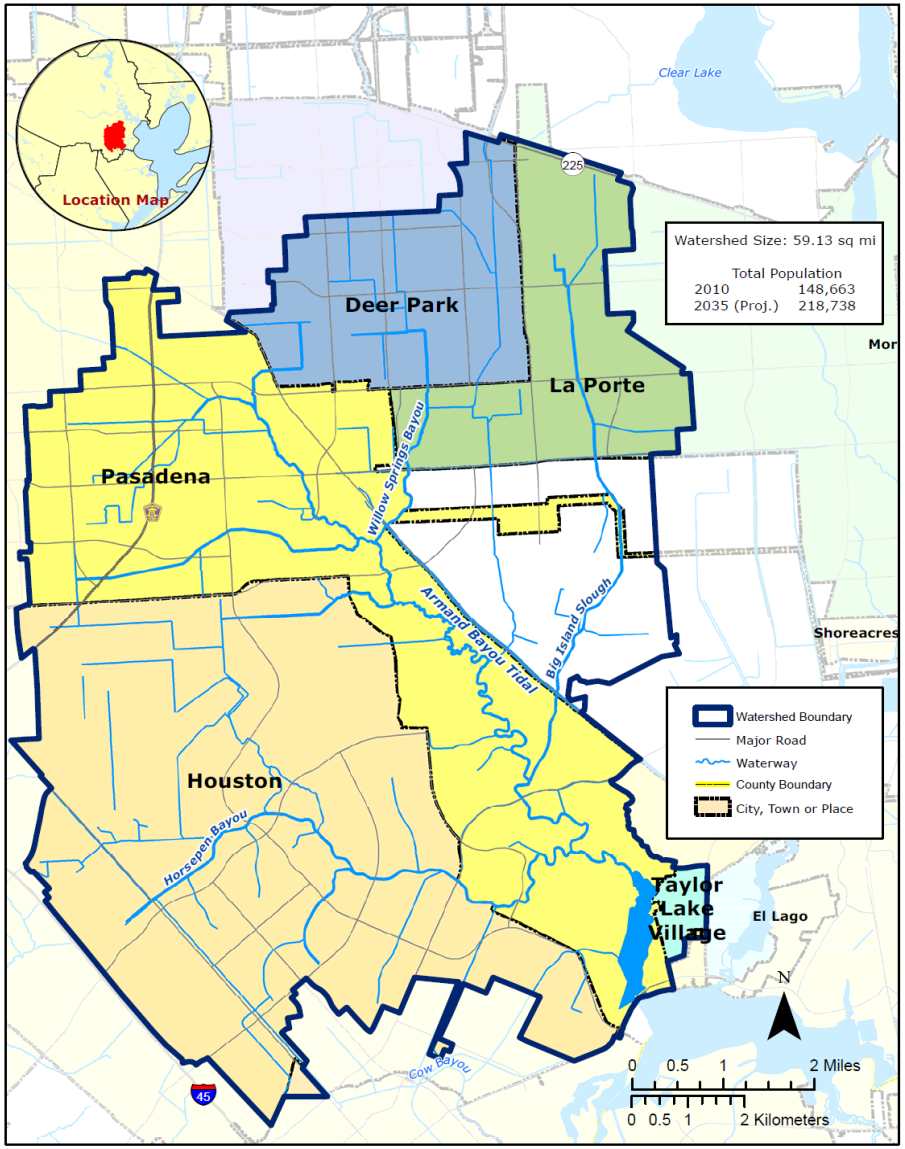
Armand Bayou I-Plan

Waste Water and OSSF Work Group

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

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”

Issues Raised

- Sanitary Sewer Overflows
- Leaking pipes
- WWTF
- Septic Systems

Examples From Other Plans

Implementation Activity 1.1: Impose More Rigorous Bacteria Monitoring Requirements

Implementation Activity 1.2: Impose Stricter Bacteria Limits for WWTF Effluent

Implementation Activity 1.3: Increase Compliance and Enforcement by TCEQ

Implementation Activity 1.4: Improved Design and Operation Criteria for New Plants

Implementation Activity 1.5: Upgrade Facilities

Implementation Activity 1.6: Consider Regionalization of WWTF

Implementation Activity 1.7: Use Treated Effluent for Facility Irrigation

Implementation Activity 11.2: Penalties for SSOs

Implementation Activity 11.3: Evaluate Fats, Oils and Grease Requlations

Implementation Activity 11.4: Develop Utility Asset Mgmt Program

Implementation Activity 11.5: Encourage Appropriate Mechanisms to Maintain Lift Station Functions

Implementation Activity 11.6: Support the Development of Streamlined SSO Reporting Database

Example From Other Plans

- **Implementation Activity 3.1:** Identify and Address Failing Systems
  Implementation Activity 3.2: Address Inadequate Maintenance of OSSF
  Implementation Activity 3.3: Legislation and Other Regulatory Actions

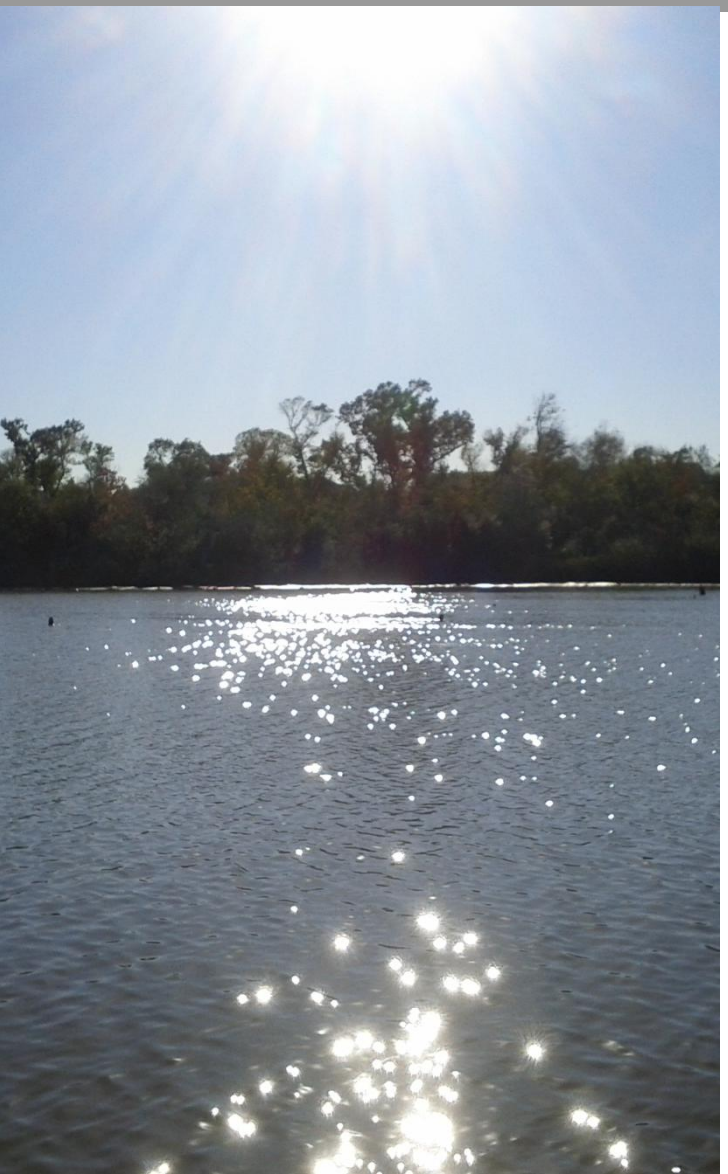
Examples 9 Element Table

	(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**
		Implementation Activity 1.1 (IA 1.1): Impose more rigorous bacteria monitoring requirements	IA 1.1 is expected to reduce the waste load allocation assigned to WWTFs by 2-4%.	Technical: None Financial: Existing local funding. Current cost estimates for a bacteria sample are $50. The largest increase in sampling expenditures would be experienced by the smallest facilities. Expenditures for a WWTF with a permitted flow of less than 0.1 MGD would increase from $200 to $2,600.	Inform WWTF owners and operators that more rigorous monitoring requirements will be included in their permits.	As permits come up for renewal or as new permits are written, TCEQ will include the new requirements for WWTF permits, including any grace period approved by regulatory agencies.	Within five years, all of the permits should have had renewals initiated	The number of permits which include more rigorous bacteria monitoring requirements The level of indicator bacteria in the receiving streams	H-GAC will monitor the number of permits renewed and new permits issued each year in the BIG area and which contain more rigorous monitoring requirements Ambient water quality monitoring, as described in section 9.1	TCEQ: include requirements in permits. Inform WWTF owners of more stringent requirements. WWTF owners and operators: abide by the permit requirements H-GAC: Monitor and report on updated permits, provide annual report to BIG BIG: Evaluate progress
		Implementation Activity 1.2 (IA 1.2): Impose stricter bacteria limits for WWTF effluent	IA 1.2 is expected to reduce the waste load allocation assigned to WWTFs by up to 2%.	Technical: None Financial: Existing local funding. If changes are needed by the facility to meet standards, additional local funds, loans or grant funds may be required.	Inform WWTF owners and operators that more stringent bacteria limits will be included in their permits.	As permits come up for renewal or major amendments or as new permits are written, TCEQ will include the new requirements WWTF permits.	Within five years, all of the permits should have had renewals initiated	The number of domestic permits which include more stringent bacteria limits	H-GAC will monitor the number of new, amended, and renewed permits issued each year in the BIG area and which contain more stringent bacteria limits	TCEQ: include lower limits in permits. Inform WWTF owners of more stringent requirements. WWTF owners and operators: meet the lower limits H-GAC: Monitor and report on updated permits and compliance, provide annual report to BIG BIG: Evaluate progress

Examples 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**
Nonpoint sources from malfunctioning Onsite Sewage Facilities (OSSFs).	Implementation Activity 3.1 (IA 3.1): Identify and address failing systems.	In conjunction with IAs 3.2 and 3.3, a 75% reduction in bacteria loading from failing OSSFs as identified in the TMDL projects is expected over 25 years.	Technical- data and cooperation from Authorized Agents and TCEQ must be provided. Financial- existing local funding and grant funding when available	Annual meeting for Authorized Agents, TCEQ, H-GAC, and other stakeholders. Occasional e-mails between stakeholders. Development of educational material as appropriate.	Year One: Initial map Year Two: Target areas identified Ongoing: Collect data from Authorized Agents and TCEQ, fix/replace failing systems	Map created. Identification of target areas. 500 OSSFs repaired/replaced every five years for 25 years.	Reports provided by stakeholders to the BIG regarding progress. The number of OSSFs repaired or replaced.	H-GAC will collect reports from Authorized Agents and TCEQ.	Authorized Agents and TCEQ: Identify, require replacement and/or repair of failing systems; participate in annual meeting; provide permit, violation, and enforcement data; report progress to BIG. Owners of failing OSSF: Replace or repair OSSFs. H-GAC: create and update map; facilitate annual meeting; collect and share information on the progress made each year BIG: Evaluate progress
Nonpoint sources from malfunctioning Onsite Sewage Facilities (OSSFs).	Implementation Activity 3.2 (IA 3.2): Address inadequate maintenance of OSSFs.	In conjunction with IAs 3.1 and 3.3, a 75% reduction in bacteria loading from failing OSSFs as identified in the TMDL projects is expected over 25 years.	Technical- regulations, ordinances, and orders of other Authorized Agents, as collected and shared by HGAC and/or TCEQ, may serve as models. Legal assistance may be necessary. TCEQ, EPA, H-GAC, Texas Real estate Council, and other agencies offer some technical resources. Financial- existing local funding and grant funding as available	Annual meeting for Authorized Agents, TCEQ, H-GAC, and other stakeholders. Occasional e-mails between stakeholders. Provision of example regulations provided on website Jurisdictions who choose to change or add regulations will need to offer public comment and participation as appropriate. Website and collateral educational material.	As resources are available, implementation of this activity will begin immediately and will continue for the entire implementation process.	Each community shall examine their regulations and policies within five years Compile and share all existing regulations in project area within five years One community shall revise or adopt new regulations every five years By year five, flyers or other collateral material distributed Number of website visits	Information included in annual reports to the BIG Number of new regulations Number of flyers or other collateral material distributed Number of website visits	H-GAC will collect reports from Authorized Agents and TCEQ.	Authorized Agents and TCEQ: Examine relevant regulations and make changes as appropriate; report progress H-GAC: collect and share information about communities' regulations; collect and share information on the progress made each year BIG: Evaluate progress

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

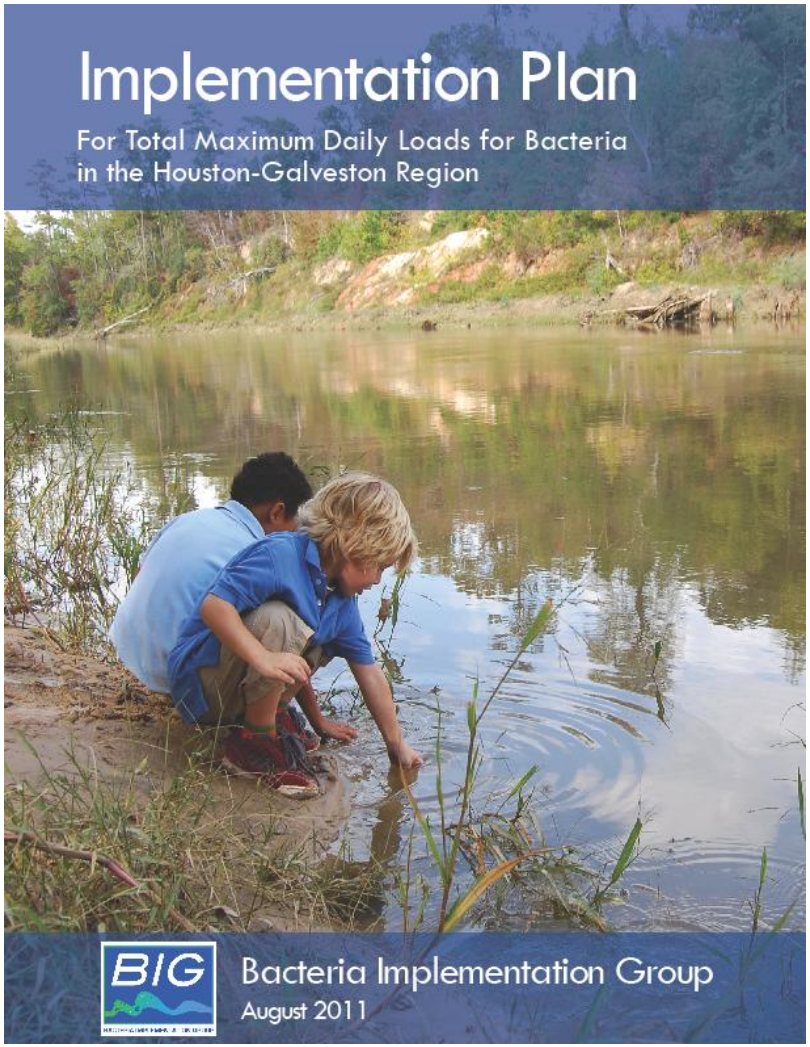
A TMDL is a tool which:

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)

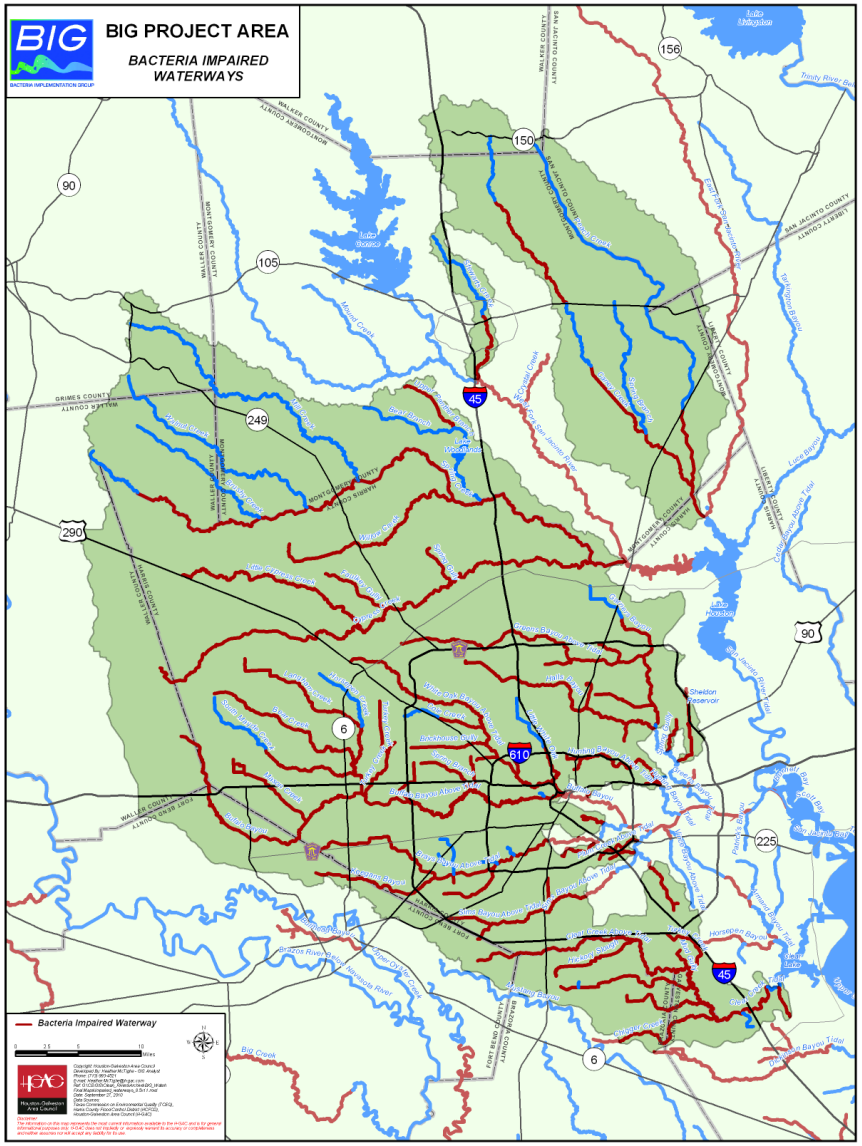


- Management Measures
- Implementation Schedule
- Follow-up Monitoring Plan
- Voluntary Implementation on Non-Point Source Pollution
- Measurable Outcomes

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