

BACTERIA IMPLEMENTATION GROUP

Roster

Name	Representing	Affiliation	Alternate 1	Alternate 2
Michael Bloom	Ag/Business	PBS&J, Greater Houston Partnership	Jason Maldonado	
John Blount	County	Harris County Planning & Operations Division	Alisa Max	
Pat Buzbee	County	Montgomery County Environmental Health	Phil Moore	
Marilyn Christian	County	Harris County Public Health & Environmental Svcs.	Snehal Patel	
Robert W. Collins	County	Montgomery County		
Carol Ellinger	Municipal	City of Houston	Sarah Metzger	Richard Chapin
Catherine Elliott	County	Harris County Flood Control District	Joe Myers	Carolyn White
Joe Ferro	Municipal	City of Webster		
Mike Garver	Buffalo/Whiteoak TMDL	Buffalo Bayou Partnership	Scott Barnes	
Teague Harris	Municipal	Pate Engineers, Inc.		
Jason Iken	Metro TMDL	City of Houston	Alex Van Keuren	
Tom Ivy	Public	Texas Stream Team	Jim Williams	
Ron Kelling	Ag/Business	San Jacinto River Authority		
James Tynan Kelly	Conservation	Bayou Preservation Association	Bruce Heiberg	
Helen Lane	Conservation	Houston Audubon	Gina Donovan	
Craig Maske	Metro TMDL	Dodson & Associates, Inc./HCEC	Scott Saenger	
Jim Meley	Ag/Business	Harris County Soil & Water Conservation Dist. #442	Cathy McCoy	
Michael Mooney	Lake Houston TMDL	The Woodlands Joint Powers Agency		
Jack Murphy	Municipal	City of League City	Susie Cavazos	Brian Craig
Becky Olive	Ag/Business	AECOM	Nancy Sullins	Tony Bennett
Mitchell G. Page	Lake Houston TMDL	Schwartz, Page & Harding, LLP	Michael Page	
Raymond Pavlovich	Wildcard	Nottingham Country Municipal Utility District	Michael Thornhill	Mark Stendahl
Linda Pechacek	Public	Citizen, Civil Engineer	Fred Lazare	Steve Archer*
Ceil Price	Buffalo/Whiteoak TMDL	City of Houston	Michael Schaffer	Guyneth Williams
Kathy Richolson	Clear Creek TMDL	Gulf Coast Waste Disposal Authority	Phyllis Frank	
Jim Robertson	Conservation	Cypress Creek Flood Control Coalition	Richard "Dick" Smith	
Linda Shead	Conservation	The Trust for Public Land	Mary Ellen Whitworth	Carolyn White
Brian Shmaefsky	Public	Lone Star College, Kingwood	Dr. John Connolly	
Melvin Solomon	Municipal	City of Conroe	Ron Green	
Robert Stokes	Clear Creek TMDL	Galveston Bay Foundation	Vanessa Mintzer	Scott Jones

*not yet approved

**Bacteria Implementation Group
Meeting Summary**

Tuesday, January 20, 2009

Members Present:

Michael Bloom	Helen Lane	Ceil Price
Pat Buzbee	Craig Maske	Kathy Richolson
Carol Ellinger	Michael Mooney	Jim Robertson
Catherine Elliott	Jack Murphy	Brian Shmaefsky
Teague Harris	Mitchell Page	Melvin Solomon
Jason Iken	Raymond Pavlovich	Robert Stokes
Tom Ivy	Linda Pechacek	

John Blount was represented by Alisa Max
Marilyn Christian was represented by Snehal Patel
James Tynan Kelly was represented by Bruce Heiberg
Becky Olive was represented by Nancy Sullins
Linda Shead was represented by Carolyn White

Members Absent:

Robert W. Collins	Mike Garver	Jim Meley
Joe Ferro	Ron Kelling	

Guests Present:

Charlie Adams (TCEQ), Henry Aghedo (Nosaedo Enterprises), Stephen Archer (Archer Environmental), Amy Branom by phone (TCEQ), Linda Broach (TCEQ), Karen Carroll (Brazoria County), Richard Chapin (City of Houston), Harvey Denman (Citizen), Bryan Eastham (TCEQ), Rick Felan (TCEQ), Nicole Hausler (PHA), Brian Koch (TSSWCB), Kim Laird (TCEQ), Fred Lazare (Avenue Community Development Corp.), Ward Ling (TCEQ), Charles Maguire (TCEQ), Ed Matuszak (URS Corporation), Yuhayna McCoy (HPARD), Maria Modelska (University of Houston), Philip Moore (Montgomery County), Chip Morris (TCEQ), Sam Okonkwo (TCEQ), Tina Petersen (CDM, Inc.), Mary Purzer (AECOM), Nic Ramirez (AEI Engineering), Nick Russo (Harris County), Scott Saenger (Jones & Carter, Inc.), Ron Stein (TCEQ), Brenda Templeton (City of Houston), Terri Thomas (BPA), Mel Vargas (Parsons)

H-GAC Staff Present:

Jeff Taebel, Carl Masterson, Rachel Powers, Erin Anderson

1. Welcome & Introductions

Rachel Powers welcomed and thanked everyone for coming. She initiated self-introductions of BIG members, H-GAC staff, and TCEQ staff.

Rachel then reviewed the agenda.

2. Certification of Quorum

Twenty-five members were present, forming a quorum.

3. Approval of November 18, 2008, Meeting Summary

Meeting notes were approved with no changes.

4. Approval of Proposed Alternates

The following nomination was approved as an alternate:

- Fred Lazare for Linda Pechacek.

BIG members noted the following necessary changes:

- Bob Stokes noted that the list did not contain his second alternate, Scott Jones, approved at the November meeting.
- Nancy Sullins noted that TCB needed to be changed to AECOM.

5. Report Contents and Structure

Rachel reviewed the contents and structure of the Implementation Plan (I-Plan). For reference, TCEQ provided H-GAC with a draft of the I-Plan for Three Total Maximum Daily Loads for Bacteria in the San Antonio River Area. TCEQ recommended emulating the format, particularly the tables. The tables contain the nine elements of a Watershed Protection Plan (WPP), which are needed if eligible communities are going to apply for 319 funding. Source workgroups have been using the table and so far, have filled out the first two columns: causes/sources and implementation activities (IAs). Those identified to date were included in the meeting handouts.

Q: Has TCEQ confirmed that the nine elements will meet the requirements by TCEQ for an I-Plan?

A: There are additional requirements, which were discussed at previous BIG meetings, but they do encompass much of the information that will be needed.

Q: What will the tables be used for?

A: Workgroups will fill out the tables. They will form the basis of the I-Plan.

Q: What are the column titles in the table?

A: Causes/Sources of Impairment; Implementation Activities; Estimated Potential Load Reduction; Technical and Financial Assistance Needed for Each Activity; Education Component for Each Activity; Schedule of Implementation Activity; Interim, Measureable Milestones for Each Activity; Indicators to Measure Progress; Monitoring Component; and Responsible Entity.

Q: The nine key elements are what is needed to go after 319 funding, but are there other elements needed in an I-Plan?

A: Yes. We went over that to an extent at the last meeting. The EPA requires reasonable assurances that load allocations will be achieved, a description of the public participation process, and recognition of other watershed management processes and programs such as local source water protection and urban stormwater management programs. TCEQ has some requirements, but between the nine elements and the EPA requirements, they are addressed. We also have the San Antonio plan that has everything required and we will be using it to develop the document.

Consensus was that the group would like to have a document that clearly lists the bare minimum of what is required in an I-Plan.

Q: Can we ask the TCEQ to address this? I thought they were going to give us an outline of about 3-5 pages. I understand maybe there is not one filled out in the State yet, but I thought the format was pretty well defined.

A: What you see on the screen is the template that TCEQ uses at the agency to develop the Implementation Plan. It includes an executive summary; introduction; summary of the TMDLs, which will contain problem definition, source analysis, linkage and TMDL expressions; implementation strategies, which includes a list of control actions and the tables (what the workgroups have been working to fill in) are included as well as a narrative summary; implementation tracking; review strategy; and communication strategy.

Q: What was the project time span for San Antonio?

A: Just like ours, it is a five-year plan, meaning it will be revisited every five years. If progress is being made at an expected rate the process will continue along the same path, if progress is not as expected the plan can be revised.

Q: Is there going to be one document for all watersheds or one document for each watershed? How is this going to be adopted in the State Water Quality Management Plan such that all of the jurisdictions in that watershed are involved and will fall under the requirements?

A: We will create one document as simple as we can make it, but there will be supplemental documentation with the information presented in different forms so that it will be relevant for various communities. The most useful way of organizing this document would be to have a separate Summary of the TMDL and Implementation Strategies for each major watershed. Dividing it by watershed (BWO, Sims, Brays, Clear Creek) will make it easier for TCEQ to deal with.

GIS maps of the Cypress Creek watershed were shown to the BIG and guests as an example of what can be done using GIS. Available data and layers will be used where possible, but the maps will have to be based on TCEQ segments, which is not how other

agencies have developed their maps. With these maps we will be able to look at the impaired waterways, look at the stream segments within the larger watershed, represent the geographic drainage area for each impaired segment, and look at each segment and identify which IAs will be applied in that drainage area.

Q: It had been discussed that the document would be available on the web. Has there been further discussion?

A: No. The term “document” is being used very loosely and it is expected that it will be presented through electronic media in addition to paper format.

Q: When the term “segment” is used, does this refer to stream segments or to some sublevel of classification?

A: Each stream is broken into segments based on where the water quality monitoring stations are. TCEQ breaks it down into assessment units based on the monitoring stations.

A list of causes/sources and IAs the workgroups have come up with so far was distributed. It was noted that the list only includes topics discussed through the December meetings. Topics from the January meetings had not been added.

Audience comments: A one-page document listing the nine key elements and additional necessary elements would be very helpful so that all involved would have a better understanding of what needs to be done.

6. Workgroups

The BIG liaison for each workgroup gave a verbal summary to the BIG. Workgroup discussions have focused as follows:

- *Agriculture & Animal*: Discussions for both source workgroups—which are held together—have focused on the completion of the causes/sources and IAs lists, in addition to the criteria that should be used in prioritization. Criteria mentioned included cost, political acceptability, low hanging fruit, largest load reduction, existing programs, biggest bang for the buck, and number of people that would benefit. Education will be an important IA for both workgroups, education of the programs/funding that are available for agriculture and education for animal sources for which there are no regulations.
- *Construction & Land Development*: The Construction workgroup discussion has focused on improving enforcement and implementation of the Construction General Permit and the MS4 construction programs. The group also discussed national effluent guidelines under development, the effect that increasing enforcement would have on staffing levels, and nutrients. The Land Development workgroup discussed differences in the ease of implementation between regulated MS4s and other areas and prior land use and its effect on bacteria levels in runoff. One concern in both workgroups was the fact that those attending the meetings were largely consultants and from Harris County. They

- would like to encourage those from outside Harris County to get involved. The next meeting will focus on land development.
- *Illicit Discharges & Dumping:* The IDD workgroup has discussed causes/sources and IAs. Through discussions three main themes have developed:
 - There is a need for an inventory of illicit discharges. Many can be found by traversing the waterways. HCFCFCD already does this.
 - A regulatory framework exists for most of the communities but there needs to be improvement: penalties need to be imposed more quickly, judges need to be on board in order to prosecute, and there may need to be some legislative changes if communities are to have the power to implement existing programs.
 - Specific activities that need improvement, such as monitoring “honey-wagons” and improvements to dumpsters (design/maintenance).
 - *On-site Sewage Facilities:* The group has discussed incentives, obstacles, and options, as well as what may or may not be financially feasible. The group came up with a three step process:
 - Inventory of all septic systems (largely using GIS, but also visual inspections)
 - Determine which ones are failing
 - With this knowledge a group could go to the legislature and say that help (\$) is needed for inspections, new WWTPs, to replace septic systems, and collection system installation.
 - *Residential:* The group discussed specific sources of bacteria, Harris County’s public education program that is already in place and how it could be offered to other communities on a cost-share basis, other outreach and education programs such as the City of Pasadena’s program and the Galveston Bay Estuary Program’s Public Participation and Education program, how to communicate personal responsibility and awareness of the waterways to the public and what the methods are to achieve this.
 - *Sanitary Sewer System:* Workgroup discussion topics have included a variety of IAs; capacity, management, operations and maintenance; subscriber systems; permit requirements; penalties and incentive programs; TCEQ’s SSO initiative; the importance of system inspections using smoke testing and remote television; and enforcement gaps including regulatory gaps and staffing gaps.
 - *Stormwater:* One of the problems the group has been having is that everything comes into the storm system and they will need to delegate some of their discussion material to the different workgroups. The group has tried to identify the different elements of the storm system (such as street gutters, inlets, pipes, outfalls), which are being called facilities. The group has divided their strategy into 3 categories: legislative and administrative, education, and structural devices (projects like Mason Park- constructed wetlands). The group had two specific topics for the research group:

- What exactly are we trying to fight? The focus is bacteria but is this really the health hazard? What pathogens/health indicators should we be focused on?
- Once bacteria are in the storm sewer system they are there. What is a practical method to kill these bacteria?
- *Wastewater Treatment Facilities:* The group came up with a list of causes/sources and IAs and have worked to refine the list. The group discussed new requirements of testing effluent for bacteria. The group talked about the cost vs. effectiveness of suggested IAs and how the design of a facility should be based on the experience of the operator in addition to the engineer's experience. Prioritization discussions resulted as follows: the #1 priority for sources is the effluent and the #1 priority for IAs is monitoring. A common theme of improved rules and enforcement exists throughout the IAs.

The four nonsource-related workgroups focused their discussions as follows:

- *Coordination & Policy:* The Coordination & Policy workgroup developed a worksheet that source workgroups and the BIG could use to evaluate and rank IAs. The worksheet includes 19 factors on which to rate IAs. Factors will be weighted, although the weights have not yet been determined. Additionally the worksheet contains a column titled "Applicable Factors," the use of which should help to normalize the scores to make up for situations where a factor is not applicable. The workgroup requested that comments on the worksheet be made to help in the refinement.

A recommendation was made that a factor analysis be done before the factors are weighted; we may find that there is a high correlation between factors like cost, cost per unit, public acceptability and political acceptability.

Once the factor list has been refined and consensus achieved, a test ranking will be conducted before finishing the weights. H-GAC's transportation department used a similar ranking system and their method could be reviewed for consideration by the workgroup. The workgroup stated that source workgroups could go ahead and begin to fill out the first column of the worksheet.

The group requested that each workgroup should make a list of legal questions that come up in discussions and this list should be passed on to the Coordination & Policy workgroup.

- *Monitoring:* The group has categorized the monitoring suggestions into four groups: ambient monitoring (will measure progress), BMP effectiveness monitoring, discharge monitoring (outfalls), and administrative monitoring (tracking of activities).
- *Research-* The Research workgroup's topics of discussion have included Use Attainability Analyses, prior land use, a possible correlation with bacteria and some other pollutant, a paired watershed study to assess the impact of pet

waste, the real health risk/appropriate indicator, the acceptable bacteria level for secondary contact recreation, and if the bacteria standard of 126 cfu/100mL is even achievable. A comment was made that maybe research topics should be prioritized once workgroup IAs have been prioritized/ordered and could be based on what the workgroups come up with as the top priorities.

- *Watershed Outreach*: The group's two main tasks are to prioritize which waterways to focus on first and to communicate to the public what is being done by the BIG. So far, the group has focused on how to prioritize the waterways. Criteria for prioritizing might include the presence of other pathogens besides *E. coli*, recreational usage rates, costs, bacteria levels, population density around the waterways, percent of base flow that comes from WWTPs, community needs, effect on drinking water, and upstream vs. downstream.

7. Other Business/Roundtable

- The next Bacteria Permit Limits – Rulemaking Stakeholder Meeting will be January 23, 2009, at 9:00 AM. The agenda was provided in the handouts.
- TCEQ has just completed the establishment of the management structure for TMDL and the new Team Leader is Ron Stein.
- TCEQ is looking to take the Buffalo/Whiteoak TMDL to agenda for adoption on April 8, 2009. The main document will not change, but an appendix will be added. The new appendix will include the equations used to generate new allocations if and when the criteria for bacteria change.

8. Next Meeting Date

The next regularly scheduled meeting will be on February 17, 2009.

9. Adjourn

The meeting was adjourned at 3:36 PM.

What Must Be in a Bacteria Reduction I-Plan

Requirements of an Implementation Plan (I-Plan)

TCEQ does not provide specific requirements for the contents of an implementation plan, other than to say that the nine elements of a WPP are critical parts of an I-Plan.

EPA echoes this, saying that the criteria used to award CWA Section 319 nonpoint source grants to states should be considered when developing an I-Plan. For more information on the requirements for Section 319-fund eligibility, refer to <http://www.epa.gov/owow/nps/cwact.html> or <http://www.dcr.state.va.us/sw/ss319.htm>.

Further guidance is provided by the EPA in a handful of documents and memos that may be viewed at <http://epa.gov/owow/tmdl/guidance.html>. Section 303(d) of the CWA and current EPA regulations do not require the development of implementation strategies. EPA outlines the minimum elements of an approvable IP in its 1999 "Guidance for Water Quality-Based Decisions: The TMDL Process". The listed elements include:

- a description of the implementation actions and management measures,
- a time line for implementing these measures,
- legal or regulatory controls,
- the time required to attain water quality standards, and
- a monitoring plan and milestones for attaining water quality standards.

The EPA has also described the main elements of an I-Plan as follows (see www.epa.gov/owow/tmdl/overviewfs.html):

Reasonable assurances that load allocations will be achieved, using incentive-based, non-regulatory or regulatory approaches. TMDL implementation may involve individual landowners and public or private enterprises engaged in agriculture, forestry, or urban development. The primary implementation mechanism may include the state, territory, or authorized tribe section 319 nonpoint source management program coupled with state, local, and federal land management programs and authorities,

Public participation process, and

Recognition of other watershed management processes and programs, such as local source water protection and urban stormwater management programs, as well as the state's section 303(e) continuing planning process.

Nine Elements of a Watershed Protection Plan (WPP)

TCEQ has advised H-GAC that the nine elements of a WPP, described briefly below, are “generally determined to be critical for an Implementation Plan.” Furthermore, these elements are required to apply for “319” funding.

Key Elements:

1. Identification of the causes of the impairment - The sources of bacteria that need to be controlled.
2. Description of the Management Measures – The Management Measures that will be implemented to improve water quality.
3. Estimated potential load reduction – The estimated amount the bacteria loading that can be reduced with each Management Measure.
4. Technical and financial assistance needed for each measure – The sources and authorities that will be used to implement the plan.
5. Education component for each measure and other education- The education components of the plan that will enhance the public understanding of the project and encourage their participation.
6. Schedule of implementation for each measure – The schedule with milestones for implementing the Measures in the plan.
7. Description of interim, measurable milestones for each measure – The interim milestones to determine whether management measures are being implemented.
8. Indicators to measure progress – Identify a set of criteria for determining if loading reductions are being achieved and progress is being made towards attaining water quality standards, and if not, the criteria for determining if the watershed-based plan needs to be revised; and
9. Monitoring component to evaluate effectiveness – The monitoring needed to evaluate the Measures.



Peer Review Draft, Month Year

draft

Implementation Plan for
Number Total Maximum Daily Load(s)
for Parameter(s) in the Water Body(ies)
Segment Number(s)

Prepared by the
Chief Engineer's Office, Water Programs, TMDL Section
TEXAS COMMISSION ON ENVIRO

Distributed by the
Total Maximum Daily Load Section
Texas Commission on Environmental Quality
MC-203
P.O. Box 13087
Austin, Texas 78711-3087

TMDL implementation plans are also available on the TCEQ Web site at:
<www.tceq.state.tx.us/implementation/water/tmdl/>

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Implementation Plan for Number TMDLs for Parameter in the Water Body Name

Executive Summary

On **date**, the Texas Commission on Environmental Quality adopted **Title (Segment #)**. The TMDLs **were** approved by the U.S. Environmental Protection Agency (USEPA) on **month, day, year**.

This implementation plan, or I-Plan:

- describes the steps the TCEQ and its stakeholders will take to achieve the pollutant reductions identified in the TMDL report, and
- outlines the schedule for implementation activities.

The ultimate goal of this I-Plan is the reduction of **parameter** concentrations in Segment **#### of the water body name** to levels that meet the **criterion** defined in the state water quality standards.

The TMDL identified **xxxxx** as the source of **pollutant description**. **[Summarize the sources and implementation measures in a brief paragraph here.]**

The TCEQ will track the progress of this I-Plan in restoring the affected use. Water quality data will be collected for **xxxxx** years to identify trends and compliance with the water quality standard. If standards are not attained by the end of the monitoring period, the TCEQ will reevaluate the TMDL and the I-Plan and take appropriate action. The TCEQ will report the results of implementation tracking and evaluation in its biennial program status report and at regional forums.

Introduction

In order to keep Texas' commitment to restore and maintain water quality in impaired rivers, lakes, and bays, the TCEQ will establish implementation plans for each TMDL it develops. A TMDL is a technical analysis that:

- determines the amount of a particular pollutant that a water body can receive and still meet applicable water quality standards, and
- estimates how much the pollutant load must be reduced to comply with water quality standards.

This I-Plan is designed to guide activities that will reduce **parameter(s)** in **segment(s)**, as defined in the adopted TMDLs. The ultimate goal of the I-Plan is to restore the **name uses** of the **segment(s)** by reducing the average annual concentrations of chloride and TDS to levels that meet the criteria established in the state's water quality standards.

The I-Plan is a flexible tool that governmental and nongovernmental organizations involved in implementation use to guide the management of their programs. The participating organizations may accomplish the activities described in this I-Plan through rule, order, guidance, or other appropriate formal or informal action.

This I-Plan contains the following components:

- 1) a description of control actions and management measures¹ that will be implemented to achieve the water quality target.
- 2) a schedule for implementing activities.
- 3) the legal authority under which the participating agencies may require implementation of the control actions.
- 4) a follow-up tracking and monitoring plan to determine the effectiveness of the control actions and management measures undertaken.
- 5) identification of measurable outcomes and other considerations the TCEQ will use to determine whether the I-Plan has been properly executed, water quality standards are being achieved, or the plan needs to be modified.
- 6) identification of the communication strategies the TCEQ will use to disseminate information to stakeholders and other interested parties.

This I-Plan also includes all of the nine key elements (Table 1) for watershed-based plans as prescribed in the *FY 2004 Guidelines for the Award of Section 319 Nonpoint Source Grants to States and Territories* (USEPA, 2003). Consequently, projects developed to implement nonpoint source elements of this plan that meet the grant program conditions are eligible for funding under the USEPA's Section 319(h) incremental grant program.

The commission approved this I-Plan on Month, Day, Year. The TCEQ has primary responsibility for restoring water quality to achieve designated uses in impaired water bodies.

¹ Control actions refer to point source pollutant reduction strategies, generally TPDES permits. Management measures refer to strategies for reducing nonpoint source pollutants, generally through voluntary best management practices.

Summary of TMDLs

Figure 1. Project Area

Table 2. Water Quality Inventory Assessment Data

Use	Parameter	Number of Samples	Average (mg/L)	Water Quality Standard (mg/L)

Implementation Strategy

The implementation strategy describes the actions that the TCEQ and its stakeholders will undertake to achieve water quality standards. The strategy specifies actions to meet the load allocations assigned to all point sources and nonpoint sources identified in the TMDL report. Action strategies may be selected from a menu of possible measures based on an evaluation of feasibility, costs, support, timing, and other factors. Activities may be implemented in phases based on the TCEQ's assessment of progress.

Control Action 1.0: Title

[Note: *The level of detail for each action may vary depending upon site-specific circumstances. The description of each action to be implemented under the Plan should include:*

- *WHAT: Generally describe what will be done*
- *WHO: Identify lead and supporting entities; Define roles and resource commitments for each participating organization*
- *WHERE: Describe the location where the action will take place and/or the area that will be affected*
- *GOAL: Estimate the degree to which each action will be implemented; Specify both long-term and intermediate milestones; Specify parameters and units that will be used to measure and report progress; Express in both discrete and percentage formats*
- *WHEN: Include an estimated schedule for the implementation of each action; Specify estimated target dates for both long-term and intermediate milestones; Consolidate into an overall TMDL Implementation Schedule*

- *HOW: Generally describe the steps that will be used to complete each action; Explain how action contributes to water quality goals; Estimate technical assistance needs and identify source of technical assistance*
- *COSTS / SOURCE OF FUNDS: Estimate the cost of implementing each action and identify funding sources*
- *LEGAL AUTHORITY: Identify the statutory authorities that can be used to implement regulatory actions]*

Management Measure 1.0: Title

Table 3. Implementation schedule

Activity	Entity	Schedule

Table 4. Evaluation outline

Results	Subsequent Action

Legal Authority

Under the Texas Water Code, the TCEQ has primary responsibility for managing the quality of surface waters within the state of Texas. These responsibilities include establishing the quality standards for waters of the state, the preparation of the state’s management plan for water quality, and the implementation of its regulatory program to control discharges of pollutants to surface waters.

Texas statutory provisions require the commission to establish the level of quality to be maintained in, and to control the quality of, water in the state (Texas Water Code (TWC) Section 26.011). Texas fulfills its obligations under Section 303(d) of the Clean Water Act to list impaired segments and create TMDLs through functions assigned by the legislature to TCEQ. The 303(d) list is prepared by TCEQ as part of its monitoring, planning, and assessment duties (TWC Section 26.0135).

TMDLs are part of the state water quality management plans that TCEQ is charged by statute to prepare (TWC Section 26.036). As the state environmental regulatory body, the commission has primary responsibility for implementation of water quality management functions within the state (TWC Section 26.0136 and Section 26.127). The executive director of the TCEQ must prepare and develop, and the commission must approve, a comprehensive plan for control of water quality in the state (TWC Section 26.012). The list of impaired segments and resulting TMDLs are tools for water quality planning.

The *Texas Surface Water Quality Standards* are contained in Title 30, Chapter 307 of the Texas Administrative Code (30 TAC Chapter 307). TCEQ procedures for implementing these standards are described in *Implementation of the Texas Natural Resource Conservation Commission Standards Via Permitting* (RG-194, August 1995).

Implementation Tracking

This I-Plan includes provisions to track the progress of the I-Plan using both programmatic and water quality indicators. These terms are further defined as:

- **Programmatic Indicator** – A measure of administrative actions undertaken to effect an improvement in water quality.
- **Water Quality Indicator** – A measure of water quality conditions for comparison to pre-existing conditions, constituent loadings, and water quality standards.

Implementation tracking provides information that can be used to determine if progress is being made toward meeting goals. Tracking also allows stakeholders to evaluate actions taken, identify those which may not be working, and make any changes that may be necessary to get the plan back on target.

Programmatic Indicators

For Control Action 1, the TCEQ will track the following programmatic activities:

- **List Indicator Name**
And describe
- **List Indicator Name**
And describe

Water Quality Indicators

Water quality monitoring staff of the **river authority/contractor/regional office** will track the status of water quality during implementation. Personnel will collect samples **quarterly** in the **water body name** to track the instream response to changes made in the existing loadings.

- **List Indicator Name**
And describe
- **List Indicator Name**
And describe

Review Strategy

The TCEQ and stakeholders in TMDL implementation projects periodically assess the results of the planned activities and other sources of information to evaluate the adequacy of the I-Plan. Stakeholders evaluate several factors, such as the pace of implementation, the effectiveness of best management practices, load reductions, and progress toward meeting water quality standards. The TCEQ will document the results of these evaluations and its rationale for maintaining or revising elements of the I-Plan, and will present them as part of the state's normal reporting process summarized in the following section.

If sufficient reductions in parameter are not observed by the end of the monitoring period, the TCEQ will reevaluate the potential sources identified in the TMDL and adapt the I-Plan as appropriate.

Communication Strategy

Communication is necessary to ensure stakeholders understand the I-Plan and its progress in restoring water quality conditions. The TCEQ will disseminate the information derived from tracking I-Plan activities to interested parties, including watershed stakeholders, state leadership, government agencies, non-governmental organizations, and individuals.

Results and progress will be documented in the TMDL Program's biennial status report. This report will summarize all actions taken to address the impairment and will report trends observed in the water quality data collected to track the progress of implementation. Work plans include a commitment to provide appropriate information to the TCEQ to update these progress assessments. Regionally, the progress of this implementation plan will be reported in the annual reports prepared by the Name River Authority under provisions of the Texas Clean Rivers Program.

References

TCEQ Date. Name and pub info of the TMDL for this I-Plan. Etc.

USEPA 2003. Nonpoint Source Program and Grants Guidelines for States and Territories. <www.epa.gov/fedrgstr/EPA-WATER/2003/October/Day-23/w26755.htm>. Accessed December 28, 2006.

BIG Outreach Plan: Phase I

Objectives:

1. Identify stakeholders who will need to be included in the conversation and who will be asked to pass resolutions in support of the plan so that they won't be surprised when we ask for a resolution.
2. Inform stakeholders, who will be responsible for implementation activities, of the BIG, its process, and its progress and seek their input.
3. Engage residents of TMDL watersheds to bring awareness of water quality issues, inform them of BIG activities and seek their input.

Actions:

1. Send letters and e-mails with preliminary draft report. Make follow-up phone calls.
2. Send press releases and make follow-up phone calls.
3. Present information to various organizations and stakeholder groups.
- 4.

Timeline:

1. February 2009: Identify stakeholders and speaking opportunities.
2. March 17, 2009: Preliminary draft approved at March BIG meeting. Any necessary changes made by end of March.
3. April 1, 2009 to April 30, 2009: Send out letters in stages, begin follow-up calls.
4. May 1, 2009 to June 30, 2009: Continue follow-up calls, meetings, and presentations.
5. July 1, 2009: Continue gathering and configuring information for I-Plan

Communication Content:

1. Cover letter describing process, significance to stakeholder
2. Bacteria Brochure
3. Preliminary draft
4. Map(s) of area of interest
- 5.

Stakeholder Targets:

1. Counties in project areas
2. Cities in target areas (Mayor, manager, engineer, secretary, elected officials)
3. Special Districts (MUDS)

- a. Directors
- b. Engineers
- c. Attorneys
4. WWTF operators
5. Media
6. Chambers of Commerce
7. Local offices of State Legislators
8. Other agencies
 - a. TxDOT
 - b. River Authority
 - c. Adjacent COGs – a quick phone call to let them know what we are doing – not much of ‘other COG’ areas
 - d. EPA
 - e.
9. Professional Organizations
 - a. Houston Council of Engineering Companies (HCEC)
 - b. Water Environment Association of Texas (WEAT)
 - c. Houston Builders Association (HBA)
 - d. American Society of Landscape Architects (ASLA), Houston Chapter
 - e. Associated General Contractors of America, Inc. (AGC), Houston Chapter
 - f. Association of Water Board Directors (AWBD)
10. Speaking opportunities
 - a. Harris County MS4 meeting (early May—Herman Sanders)
 - b. EPA MS4 Conference (June)
 - c. AWBD Conference
 - d.