

# **TCEQ Interoffice Memorandum**

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**To:** Commissioners' Work Session

**Thru:** *JS* L'Oreal W. Stepney, P.E., Deputy Director, Office of Water

**From:** *KA* Kelly Holligan, Director, Water Quality Planning Division

**Date:** *5/23/12* May 23, 2012

**Subject:** **Total Maximum Daily Load (TMDL) Strategy Review**

**Issue:** **Review TMDL Strategies involving TMDLs, Implementation Plans, interaction with EPA, and local stakeholder involvement.**

## **TMDL and I-Plan Development Strategy**

Because of the need for a more efficient process and more stakeholder involvement, a new strategy for developing TMDLs and I-Plans began in 2008.

For a TMDL, the new strategy involves greater stakeholder involvement from the outset and throughout the process, continuous and established communication channels between TCEQ and stakeholders, and development of the Implementation Plan concurrently with the TMDL.

The general TMDL approach is to simplify the process. The TMDL Program uses the simplest analysis available, while remaining technically accurate. This approach avoids complex models and analyses. Reasonable assurance is provided in the TMDL through the development of the I-Plan. This includes a sustained effort over time to improve water quality, and emphasizes stewardship by the stakeholders.

TMDLs are written to be clear, simple, and unambiguous. This avoids unintended interpretation, both within the TCEQ and by EPA.

For the I-Plan, the new strategy changes the point of focus. The stakeholder-driven plan is what will actually improve water quality, not the TMDL itself. Focusing on the I-Plan from the beginning demonstrates to the stakeholders that TCEQ is committed to them, they are vital to the process and their input is what will shape and direct the plan.

Motivation increases because stakeholders recognize quickly that improvements they recommend will be implemented and that they are critical components in the process.

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Implementation plans, therefore, are collaborative and involve a wide variety of stakeholders in the affected watershed. These include citizens and watershed interest groups, state, local and federal agencies, and regulated entities. An effort is made to develop balanced representation.

The general strategy is to contract with a local organization (such as a river authority or council of government) to facilitate the I-Plan effort. The contractor reaches out to potential stakeholders and develops a balanced Coordination Committee. The contractor works with the Coordination Committee to identify and organize smaller Work Groups, which will then work on specific parts of the I-Plan. Together, these Work Groups develop the I-Plan. An effort is made to promote the I-Plan to gain cooperation in the watershed.

I-Plans are based on adaptive management and stewardship. I-Plans describe the activities that will be implemented by the stakeholders in a two to five year period to improve water quality. I-Plans are reviewed periodically and revised to achieve continuing improvement. A focus on monitoring is important so that the effectiveness of the activities can be assessed. Water quality improvement is expected to take an extended period of time. Stakeholders truly see this as their effort for their water body (stewardship).

These strategies have made the TDML and I-Plan process more efficient:

- developing the TMDL and I-Plan simultaneously
- simple, technically accurate modeling
- fewer meetings reducing overall time to completion
- stronger stakeholder motivation from the beginning and throughout the process
- solution-oriented focus earlier in the process
- monitoring provides feedback to stakeholders on plan effectiveness
- adaptive management allows for adjustment based on what works, what doesn't
- stakeholders focus on available local resources for efficiency of operation

Stakeholders with this sense of stewardship are eager to work on the problem. This inevitably results in cooperation and creative effort.

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## **Future TMDLs and I-Plans**

The TCEQ's intention is to continue to improve stakeholder motivation and involvement in these processes moving forward. While a few of the older TMDLs are proceeding with I-Plans on a separate, later tracks, the TMDL Program's experience with concurrent management of both the TMDLs and I-Plans shows that the new strategies are both efficient and effective.

## **EPA's Involvement With the TMDL Program**

Recently, EPA has expressed concern with several aspects of the TMDL program.

### **Pace**

As a policy requirement, EPA has asked that within 13 years of an impairment listing, states adopt a TMDL, de-list an impairment, or adopt a revised water quality standard. As de-listings and revisions to water quality standards can take years to accomplish, this translates into a very large number of TMDLs. The current 106 Grant work plan was asked to be modified midstream to accommodate this policy. The pace EPA is requesting could potentially limit stakeholder involvement, which is paramount to the TMDL and I-plan process. Quality work and a sustainable effort are critical for water quality improvement.

## **Disaggregated Permitted Stormwater Allocations**

EPA has requested a waste load allocation for each MS4 stormwater permit in a TMDL watershed to ensure that permittees know what needs to be done. EPA's request to include allocations has resulted in objections to the Phase II MS4 Permit. EPA may be delaying approval of the Cottonwood Branch and Grapevine Creek Bacteria TMDL because of this issue.

Individual waste load allocations are impractical for stormwater. Loads from individual permitted sources are very difficult to calculate and are very imprecise. Loads from stormwater are also difficult to measure. TMDL allocations are determined from daily loads, so the translation of these allocations into limits for intermittent stormwater events is impractical.

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## **Implementation Plans**

EPA staff members have questioned the value of I-Plans developed in Texas. EPA believes they should be reviewing the TCEQ's I-Plans.

I-Plans are being compared to Watershed Protection Plans (WPPs), which require EPA approval. WPPs dictate all steps needed to achieve water quality, and require a schedule for all activities including best management practice installation. The availability of nonpoint source grant funds and EPA's acceptance of WPPs are limiting factors.

I-Plans are not developed under these guidelines. In developing I-Plans, the stakeholders are asked to determine what they can do over the period of the plan. The goal is continued improvement. Most provisions are voluntary to allow stakeholders to manage resources. The effort is sustainable because the stakeholders agree to meet regularly to evaluate the plan and to revise as necessary to continue the process.



# Texas TMDL Program

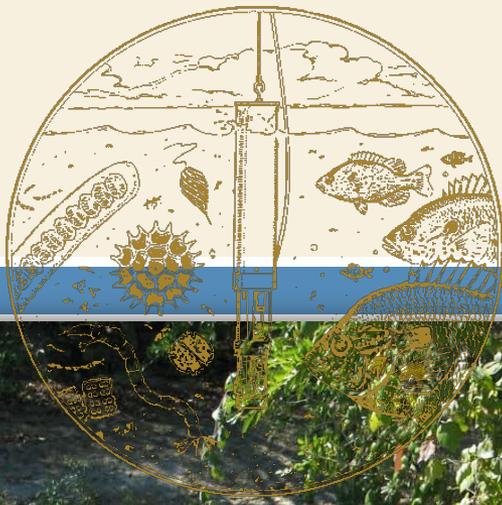
**Office of Water**

**Texas Commission on Environmental Quality**



**May 2012**





# Strategy for Improving Water Quality

## A Two Element Approach

# 1) TMDL – Total Maximum Daily Load

- Determines the maximum amount (load) of a pollutant that a water body can assimilate and still maintain uses
- Allocates this load to broad categories of sources
- Adopted by the TCEQ
- Approved by the EPA



## 2) Implementation Plan (I-Plan)

- A detailed description of the regulatory and voluntary measures needed to achieve the pollutant reductions identified in a TMDL
- Includes a plan for sustaining implementation activities over time
- Approved by the Commission



# 1) The TMDL Allocation & Report

- TCEQ or contractor leads development
  - Uses the simplest models and analysis available
- 
- Reasonable Assurance
    - Is the I-Plan

# TMDL Allocations

$$\text{TMDL} = \text{WLA}_{(\text{WWTF})} + \text{WLA}_{(\text{PSW})} + \text{LA} + \text{MOS}$$

- **WLA<sub>(WWTF)</sub>** – wasteload allocation for WWTF discharges
- **WLA<sub>(PSW)</sub>** – wasteload allocation for all types of permitted stormwater discharges
- **LA** – load allocation
- **MOS** – margin of safety
- Units per day



# TMDL Allocations & Reports Are...

- Clear
- Simple
- Unambiguous
  
- Adopted by the Commission
- Approved by the EPA

## 2) The I-Plan

- Local organization — such as a river authority or COG — facilitates development (under contract with TCEQ)
- Develops a balanced Coordination Committee
- Identifies and organizes Work Groups
- Develops a Plan to improve water quality
- Promotes Plan to gain cooperation of people in the watershed



# I-Plans Are...

- Collaborative, involving a wide variety of stakeholders in the affected watershed
  - Citizens and interest groups
  - State, local, and federal agencies
  - Regulated organizations
- Implemented over a 2 to 5 year period
  - Reviewed periodically
  - Monitored to assess their effectiveness



# I-Plans...

- Adaptive
- Revised as needed
- Approved by the Commission
- EPA has no review authority



# Concurrent Development



- TMDL and I-Plans are often developed together
  - Can reduce total project time by 1 to 2 years
  - Fewer meetings reduce overall time to completion and environmental improvement
  - Stakeholders are clear about how the TMDL will affect them because they develop the Plan
  - Allows stakeholders to manage water quality with available resources

# Carter's and Burton Creek TMDL/I-Plan

- TMDL and I-Plans were developed together
- Started together in September 2010
- 8 Coordination/Public Meetings
- 20 Work Group Meetings
  - ▣ Planning & Development, Stormwater & Transportation, Natural Resources, Wastewater
- Stakeholders included representatives from College Station, Bryan, Texas A&M, Brazos County, Citizens
- Combined process saved about two years of time



# Efficiency, Collaboration, Results

## TMDLs and Stakeholder Participation

# Collaborative



- Improvement in instream water quality may take a long time and sustained effort
- TCEQ proceeds with a TMDL and I-Plan with general agreement from stakeholders on:
  - What is needed for the TMDL and I-Plan (statutes and guidance)
  - What are the stakeholders' responsibilities

# Efficient and Results Oriented

- Stakeholders interested in solving the problem
- Solution-oriented focus from the beginning
- Strong stakeholder motivation
- Focus on local resources and what is possible
- With this sense of stewardship, stakeholders are eager to work developing the plan
- Adaptive management allows for adjustment based on what works, what doesn't

# Bacteria Implementation Group (BIG) I-Plan

- The BIG is a diverse 31-member Committee developing the I-Plan for the Houston Metro bacteria TMDLs
- Members include Harris County, the City of Houston, Montgomery County Harris County Flood Control, Cities, Engineering Firms, Environmental Groups, Regulated Community
- Nearly 100 implementation strategies were suggested, draft I-plan has 10
- Local, consensus-based solutions will be implemented to improve water quality



## **EPA Issues**

**Pace, Allocations, I-Plan Approval**

# Pace

- EPA policy:  
within 13 years of an impairment listing, states adopt a TMDL, de-list an impairment, or adopt a revised water quality standard
- De-listings and revisions to standards can take many years to accomplish
- Impractical to develop TMDLs while pursuing de-listing or standards revisions

# Pace



- This translates into a very large number of TMDLs to meet the EPA pace
- EPA asked that the current 106 Grant work plan be modified midstream to accommodate the 13-year pace
- Stakeholder involvement is paramount to the TMDL and I-plan process
- Quality work and a sustainable effort are critical for water quality improvement

# Stormwater Allocations

- EPA has requested a waste load allocation for each MS4 stormwater permit in a TMDL watershed
- EPA's request to include allocations has resulted in stakeholder objections to the Phase II MS4 Permit
- EPA may be delaying approval of the Cottonwood Branch and Grapevine Creek Bacteria TMDL because of this issue.



# Stormwater Allocations

- Individual waste load allocations for stormwater are impractical
- Loads from stormwater are extremely difficult to measure
- Translating daily load allocations into limits for stormwater would be highly imprecise

# EPA Review of Implementation Plans

- EPA staff members:
  - Have questioned the value of Texas I-Plans
  - Believe EPA should be reviewing our plans
- EPA compares I-Plans with Watershed Protection Plans (WPPs)
  - WPPs dictate all steps needed to achieve water quality
  - Availability of nonpoint source funding and EPA acceptance of WPPs are limiting factors