

# Stages in the Lake Houston Bacteria Watershed TMDL Project

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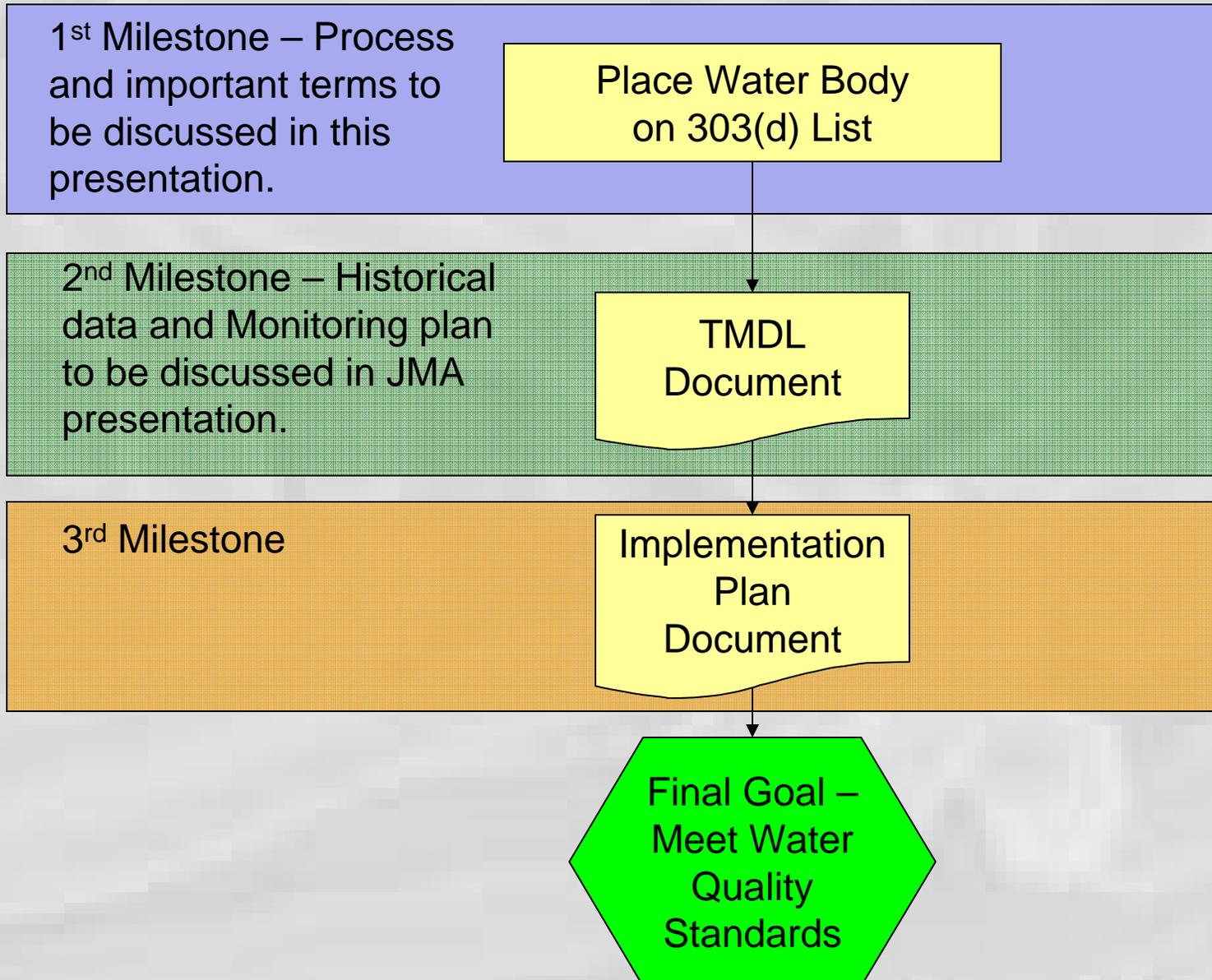
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# Total Maximum Daily Load (TMDL)

A TMDL equation specifies the maximum amount (load) of a pollutant that a water body can receive while still meeting water quality standards. The TMDL document allocates pollutant loadings among sources.

Example – A mug can only hold a specific amount of coffee before reaching its capacity.

# TMDL Process Milestones



## 303(d) List

1. List of water bodies not meeting Water Quality Standards, required by the Clean Water Act and approved by the EPA.
2. TCEQ assesses water quality biennially.
3. If sufficient data is available and levels exceed **water quality standards**, the waterbody is listed as impaired and placed on the 303(d) list.

Routine Monitoring Samples  
Collected on Stream,  
River, or Estuary/Lake

Data Assessed  
by TCEQ

Does water quality  
meet Standards for  
each Designated  
Use and Criteria?

No

Yes

Place on 303(d) List

1<sup>st</sup>  
Milestone  
Complete

Meets Water  
Quality  
Standards  
NO Further Action  
Continue Monitoring

# Water Quality Standards

- **Water Quality Standards** - define the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. *From 40 CFR Section 130.3*
- **Components**
  - Designated Uses
    - Recreation, Water Supply, Aquatic Life Use, Oyster Water
  - Pollutant Parameters
    - Bacteria, PCBs, Metals, etc.
  - Criteria – limit numeric pollutant concentrations
    - Geometric Mean, Single Sample Maximum, 24-hour measurements

# Designated Use

- **Contact Recreation** - Recreational activities involving a significant risk of ingestion of water, including wading by children, swimming, water skiing, diving, and surfing. *30 TAC §307.3(a)(12)*
- Contact recreation criteria apply to all bodies of freshwater except where specifically designated otherwise in §307.10 of TAC.

# Changing the Designated Use

- Designated Use can only be changed if a Use Attainability Analysis (UAA) confirms that an alternative use is applicable. Designated Use changes must be approved by EPA.
- Secondary form of Contact Recreation is not assigned to any waterbodies in the current WQS's.

# Criteria for Contact Recreation

- **Texas Criteria for Bacteria (*E. coli*)**
  - **Geometric Mean** (126 cfu/100mL)
  - **Single Sample Max** (less than 25% of sample exceed 394 cfu/100mL)
- States must adopt those water quality criteria that protect the designated use. Such criteria must be **based on sound scientific rationale** and must contain sufficient parameters or constituents to protect the designated use.  
*From 40 CFR Section 131.11*

# What if Water Quality Standards Change?

- Approved TMDLs will be revised to reflect any future changes in Water Quality Standards.
  - This includes changes in designated use and criteria.
  - However, TMDLs will not be delayed in anticipation of a change in Water Quality Standards.

# The Future

1. TMDL Document Adopted by TCEQ and EPA.
2. I-Plan developed by residents of the watershed with TCEQ assistance.
3. Implementation in an adaptive manner.
4. Clean water, safe for recreation that meets Water Quality Standards.

# For More Information

- Project Website

<http://www.tceq.state.tx.us/implementation/water/tmdl/82-lakehouston.html>

- TCEQ TMDL Program

<http://www.tceq.state.tx.us/implementation/water/tmdl/index.html>