Total Maximum Daily Load Program

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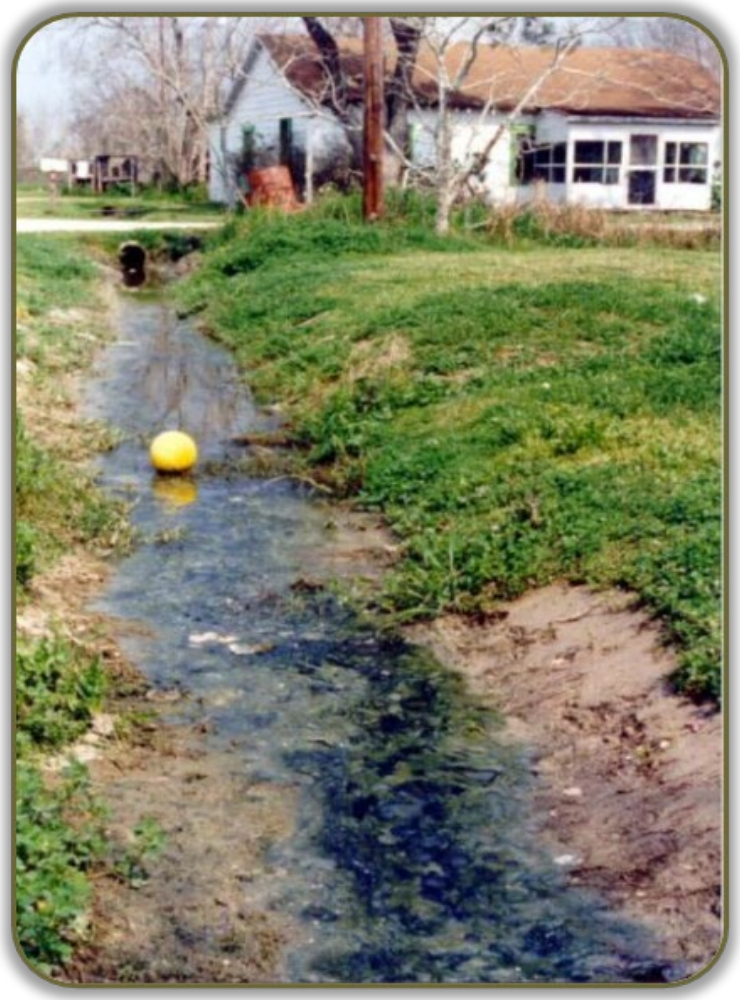
Clean Water Act Requirements

- Texas is required, under Section 303(d) of the federal Clean Water Act, to develop TMDLs for all the waters identified on the Section 303(d) list of impaired waters.
- A surface water body is considered impaired if it does not meet applicable water quality standards for one or more of its designated uses.

TMDL: Total Maximum Daily Load

- How much is too much?
- How bad is the problem?
- Where is it coming from?



Texas' TMDL Program

A TMDL determines the maximum amount of a pollutant that a water body can receive and still maintain its designated uses.

Indicator bacteria used for assessment:

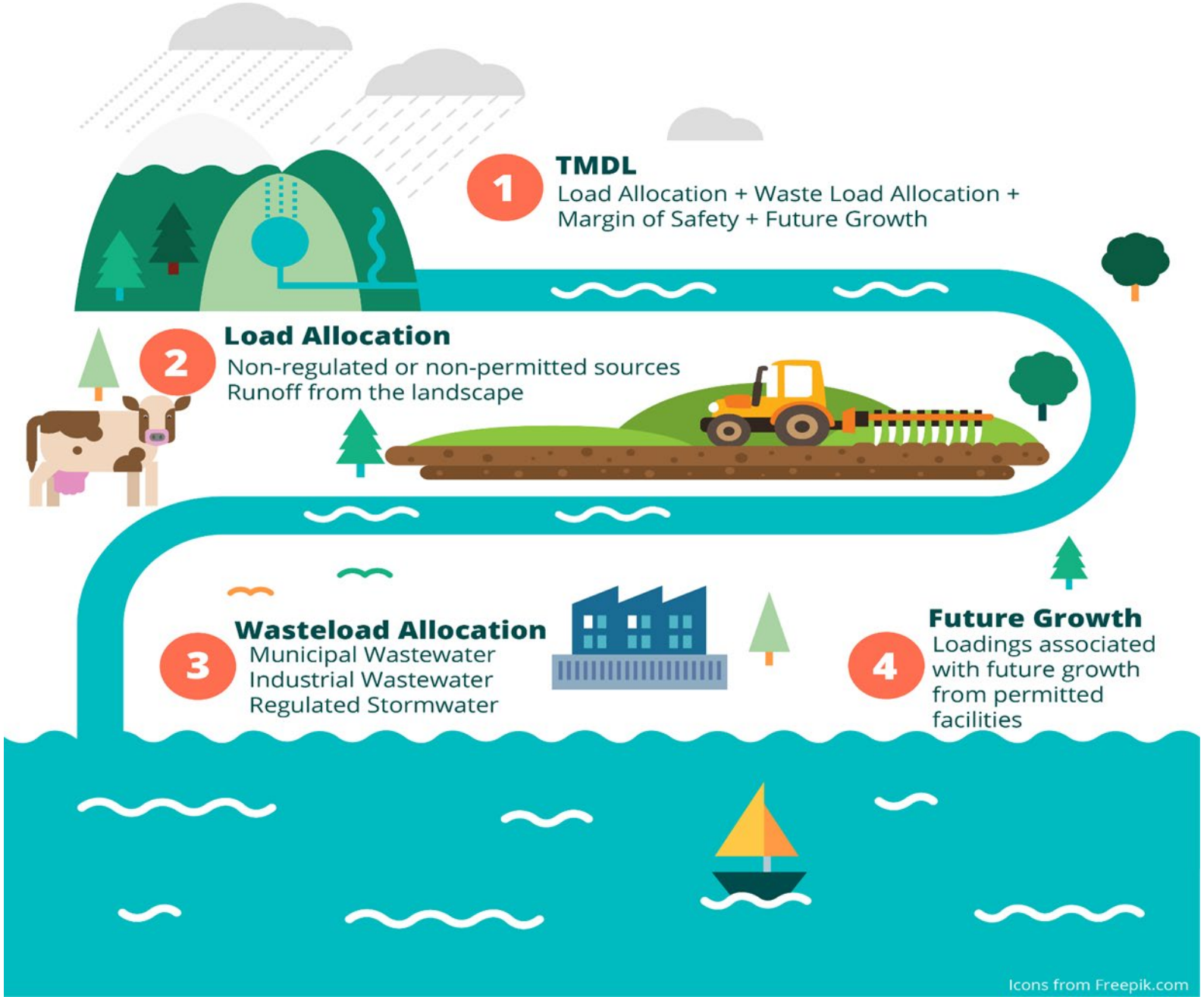
- Fresh waterbodies: *E. coli*
- Tidal waterbodies: Enterococcus

TMDL Allocations

TMDL = $WLA_{(WWTF)}$ + $WLA_{(PSW)}$ + LA + FG + MOS

- **$WLA_{(WWTF)}$** – waste load allocation for Wastewater Treatment Facilities (WWTF) discharges
- **$WLA_{(PSW)}$** – waste load allocation for all types of permitted stormwater discharges (PSW)
- **FG** – Future Growth
- **LA** – load allocation
- **MOS** – margin of safety.

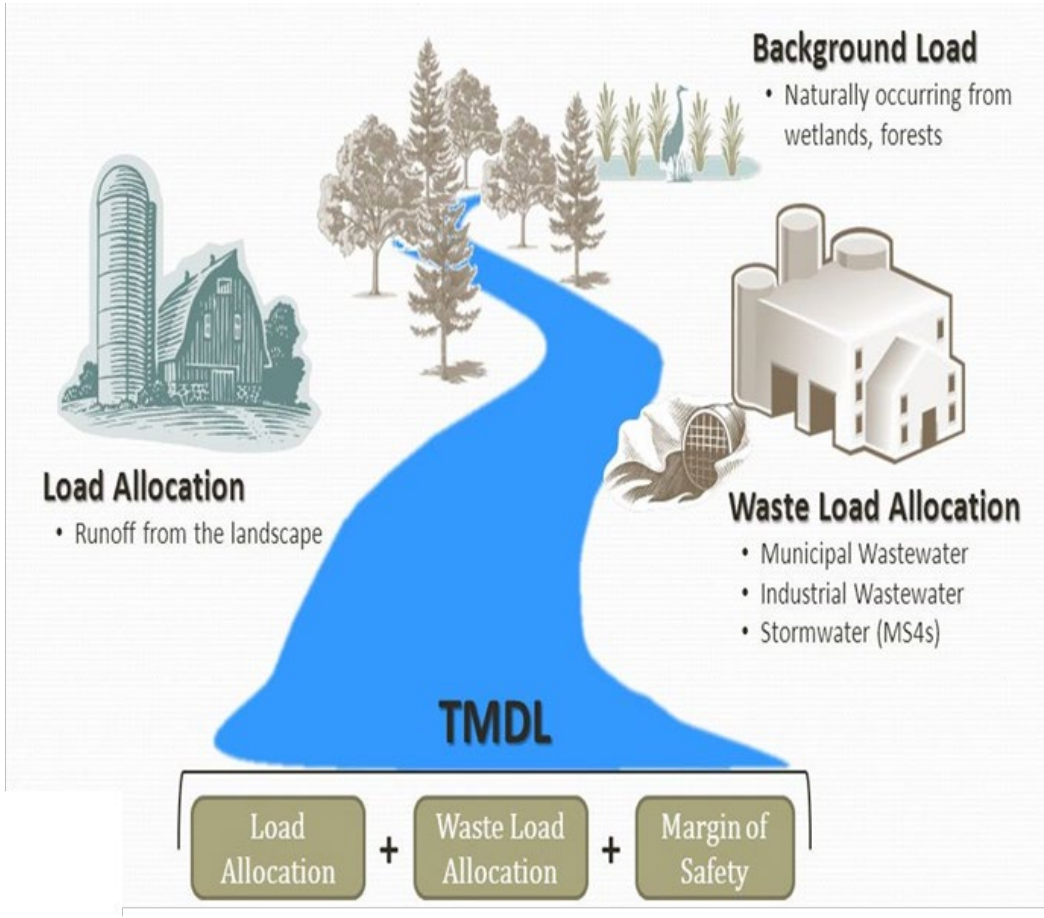
TMDLs are expressed as a daily pollutant load.


1
TMDL
Load Allocation + Waste Load Allocation +
Margin of Safety + Future Growth
2
Load Allocation
Non-regulated or non-permitted sources
Runoff from the landscape
3
Wasteload Allocation
Municipal Wastewater
Industrial Wastewater
Regulated Stormwater
4
Future Growth
Loadings associated
with future growth
from permitted
facilities
Icons from Freepik.com

TMDL Allocations (cont.)

WLA_{WWTF}

- Individual facilities receive wasteload allocations based on their full permitted flow
- Bacteria limits (criteria):
  - 35cfu/100 mL Enterococci (salt water)
  - 126 cfu/100 mL for *E. coli* (freshwater)
- Can be updated as needed through the Water Quality Management Plan

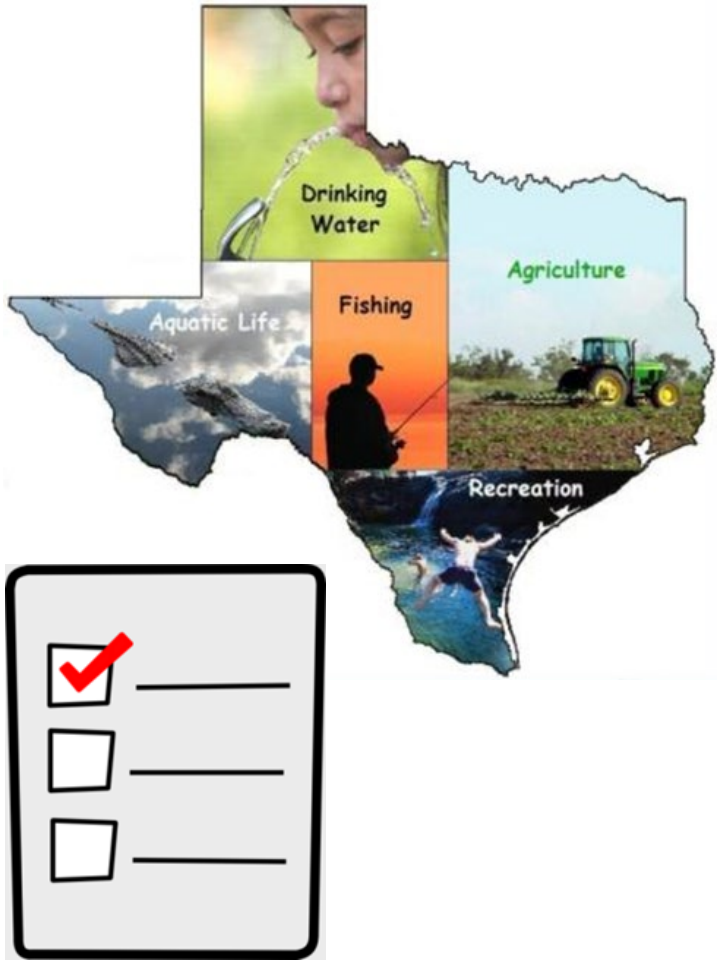


TMDL Reports

1. Contractor/partner leads development with stakeholders
2. Reports should be:
   - Clear
   - Simple
   - Unambiguous
3. Adopted by the Texas Commission on Environmental Quality (TCEQ)
4. Approved by the EPA

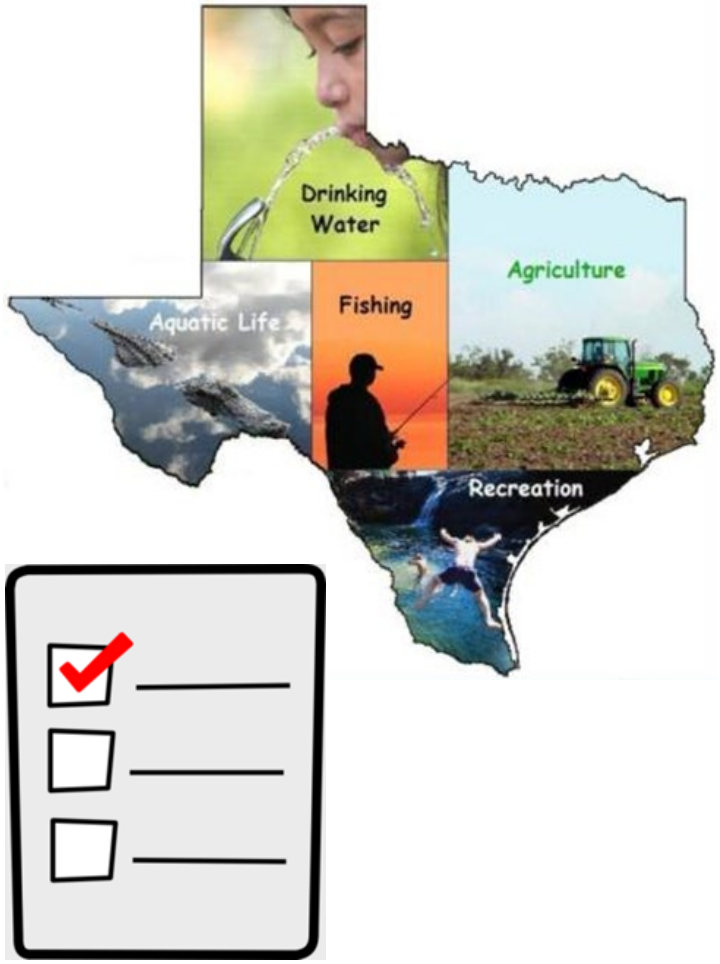
What is an Implementation Plan (I-Plan)?

- A detailed description of the regulatory and voluntary measures needed to reduce pollutants as prescribed in a TMDL.
- Describes the activities and measures that stakeholders plan to implement over a specific period to improve water quality.



What is an Implementation Plan (I-Plan)? (cont.)

- I-Plans use an adaptive management approach in which stakeholders periodically assess measures for efficiency and effectiveness
- Approved by TCEQ
- Not reviewed or approved by EPA (unlike a TMDL)



How are I-Plans Developed?

- General strategy for development:
  - Establish a Coordination Committee
  - Identify and organize Work Groups
  - Collaborate with stakeholders and interested parties to gain support and cooperation in the watershed

How are I-Plans Developed? (cont.)

The final I-Plan outlines:

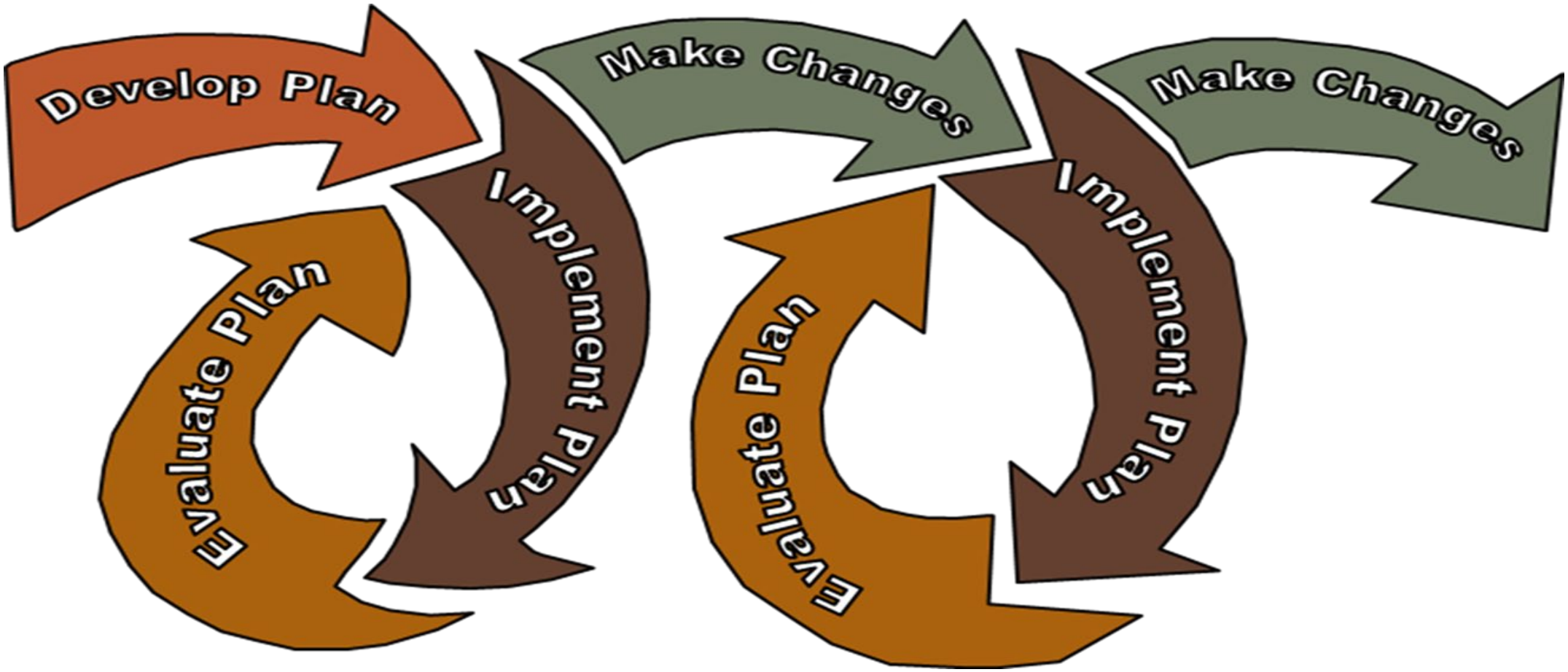
- What the community will do over the next several years
- Who will participate and be responsible for achieving specific goals
- When the implementation for each management measure will take place
- How stakeholders will assess improvement in the watershed.

Sustainability

I-Plans are sustainable because they are:

- Collaborative
- Implemented over time (typically 5-10 years)
- Reviewed periodically to assess their effectiveness

I-Plans are adaptive and revised as needed



Public Participation

- We rely on local partners to facilitate public participation.
- All phases involve stakeholders
  - Special work groups
  - Clean Rivers Program
  - Government agencies
  - Interest groups
  - Landowners
  - Cities
  - Public

North Central Texas Council of Governments

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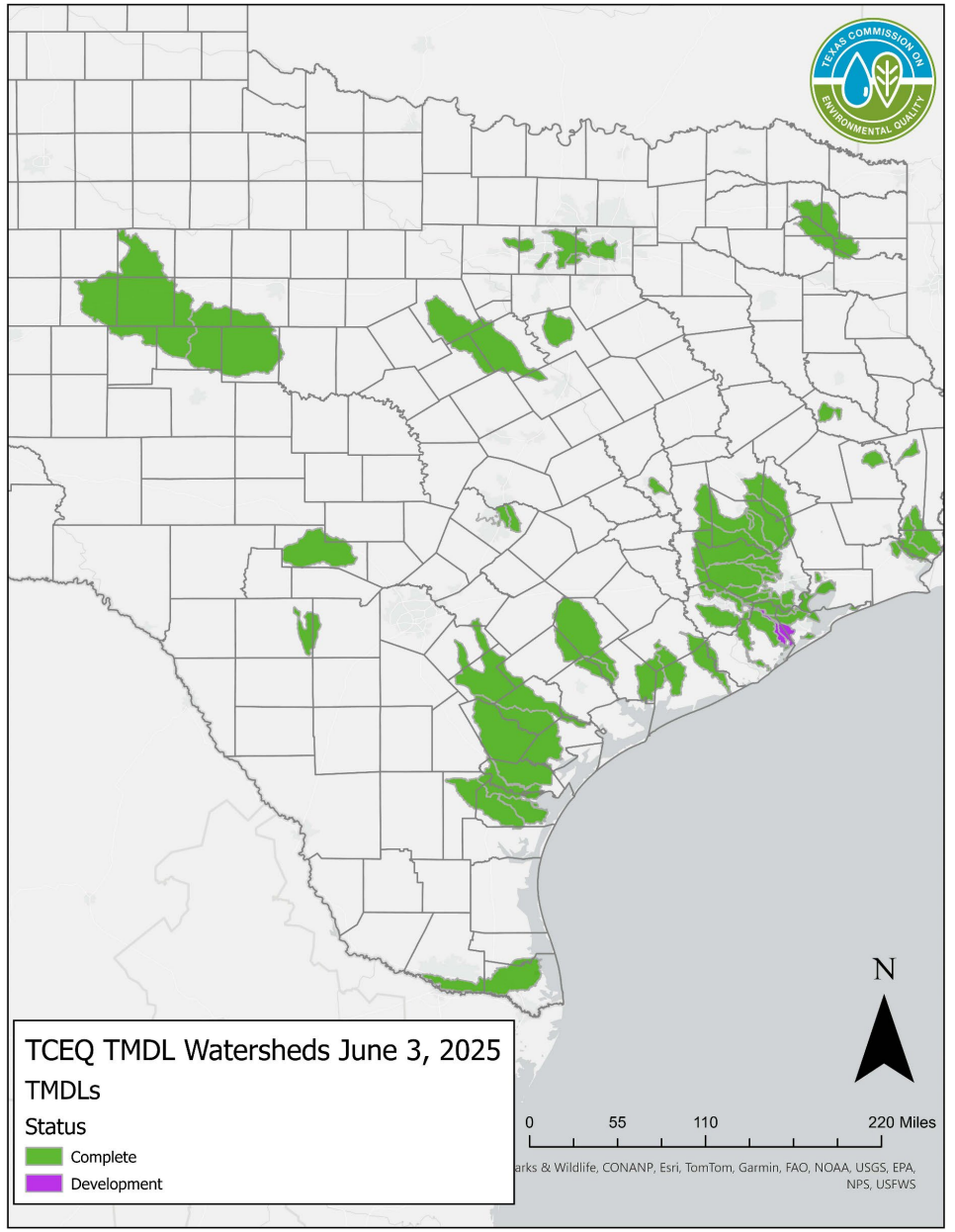
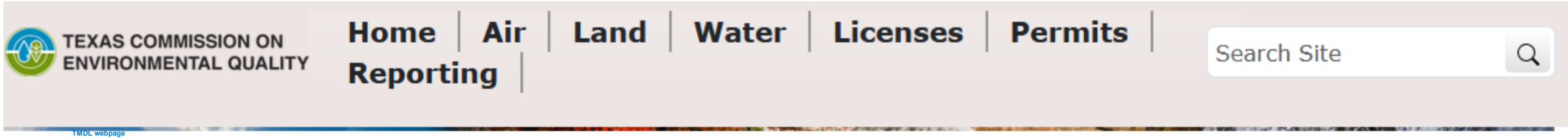
Texas Water Resources Institute
make every drop count


TCEQ TMDL Watersheds June 3, 2025
TMDLs
Status
Complete
Development
N
0
55
110
220 Miles
arks & Wildlife, CONANP, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NPS, USFWS



- Water Quality Home
- Monitoring and Assessment
- Integrated Report of Surface Water Quality
- Texas Clean Rivers Program
- Total Maximum Daily Loads
- Surface Water Quality Standards
- Nonpoint Source Pollution
- Statewide Planning

How are we doing? Take our customer satisfaction survey

Home / Water Quality / Total Maximum Daily Load Program

Questions or Comments:
tmdl@tceq.texas.gov

Total Maximum Daily Load Program: Communities Working Together to Improve Water Quality

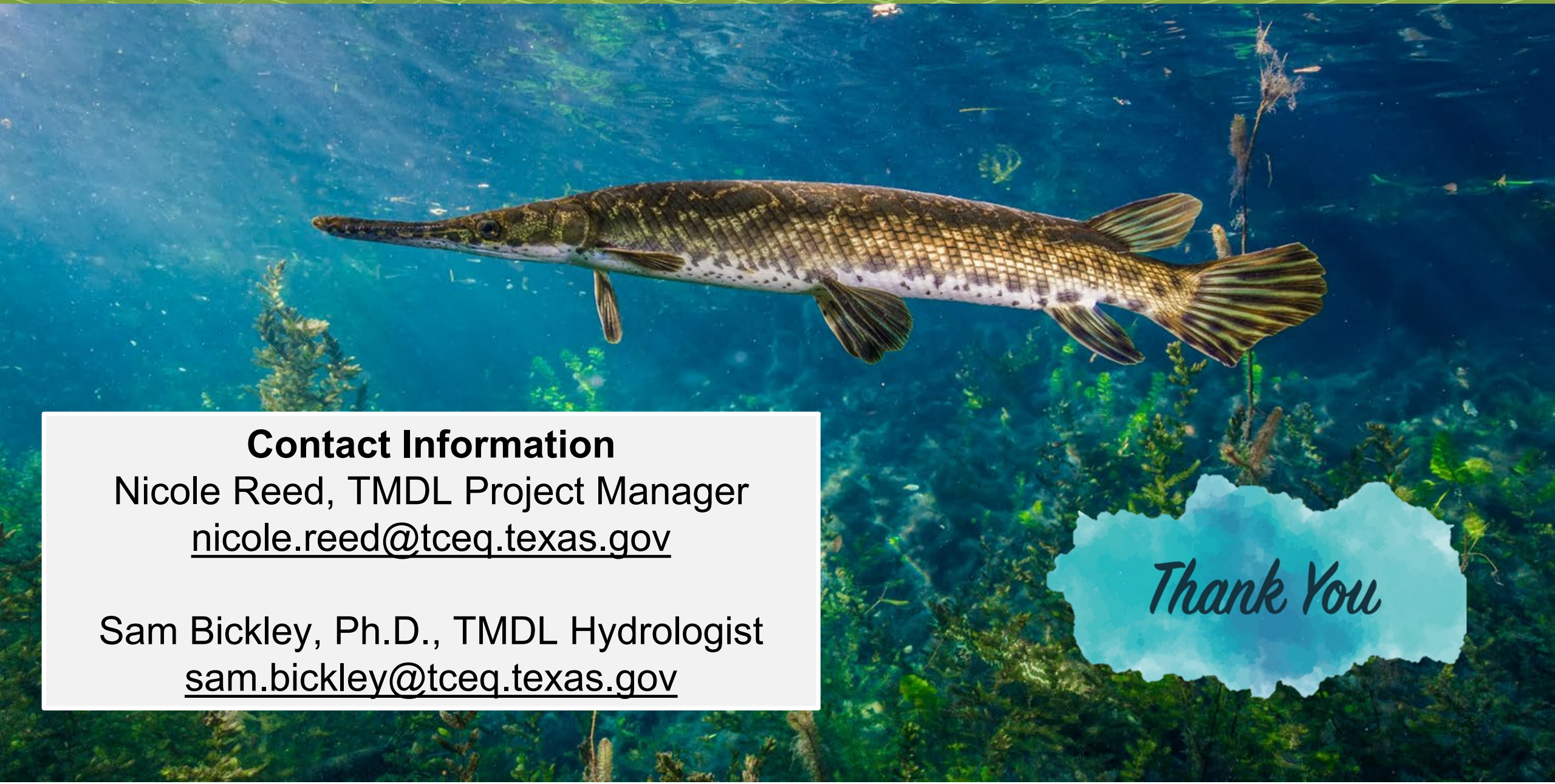
The TMDL program works with communities to take care of Texas by improving the quality of their streams, lakes, and bays through development of total maximum daily loads (TMDLs) and their implementation plans (I-Plans).

A TMDL is a scientifically-derived target for water quality that tells us the greatest amount of a particular substance that can be added to a water body without compromising its health. The TMDL gives us a measurable goal to protect and improve the quality of our streams, lakes, and bays.

Substances considered in a TMDL are not necessarily harmful in and of themselves. For example, bacteria occur naturally in both human and animal waste, but too much bacteria can make it more hazardous to swim in a creek, lake, or bay — activities called "contact recreation" in the state's standards for water quality.

TMDL Projects

Projects of the TMDL Program



Contact Information

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