Neches River Tidal and Hillebrandt Bayou TMDLs Public Meeting

Process for determining TMDL waste load allocations

Meeting will begin at 10:00 A.M. If you having audio difficulties, you may join by telephone at:

(346) 248-7799
Meeting ID: 910 6098 9643
Passcode: 165588

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August 19, 2020

Neches River Tidal and Hillebrandt Bayou TMDL Public Meeting

August 19, 2020 Webinar Objectives

- Provide more detail on the approaches used to determine the regulated source allocations
- Provide regulatory basis for water quality goals
- Invite regulated entities to review TSDs

Primary Contact Recreation Use 1

- Primary contact recreation 1 activities are those involving a significant risk of ingestion of water, such as wading by children or swimming.
- The primary contact recreation use is not met if the geometric mean of all indicator bacteria is greater than (§307.7):
  - 126 cfu/100 mL for *E. coli* in freshwater
  - 35 cfu/100 mL for Enterococci in saltwater
- Samples may be evaluated with the single sample criterion for the purposes of swimmer safety notification programs and wastewater permit compliance (§307.9):
  - 399 cfu/100 mL for *E. coli* in freshwater
  - 130 cfu/100 mL for Enterococci in saltwater

2018 Texas Surface Water Quality Standards
cfu – colony forming unit

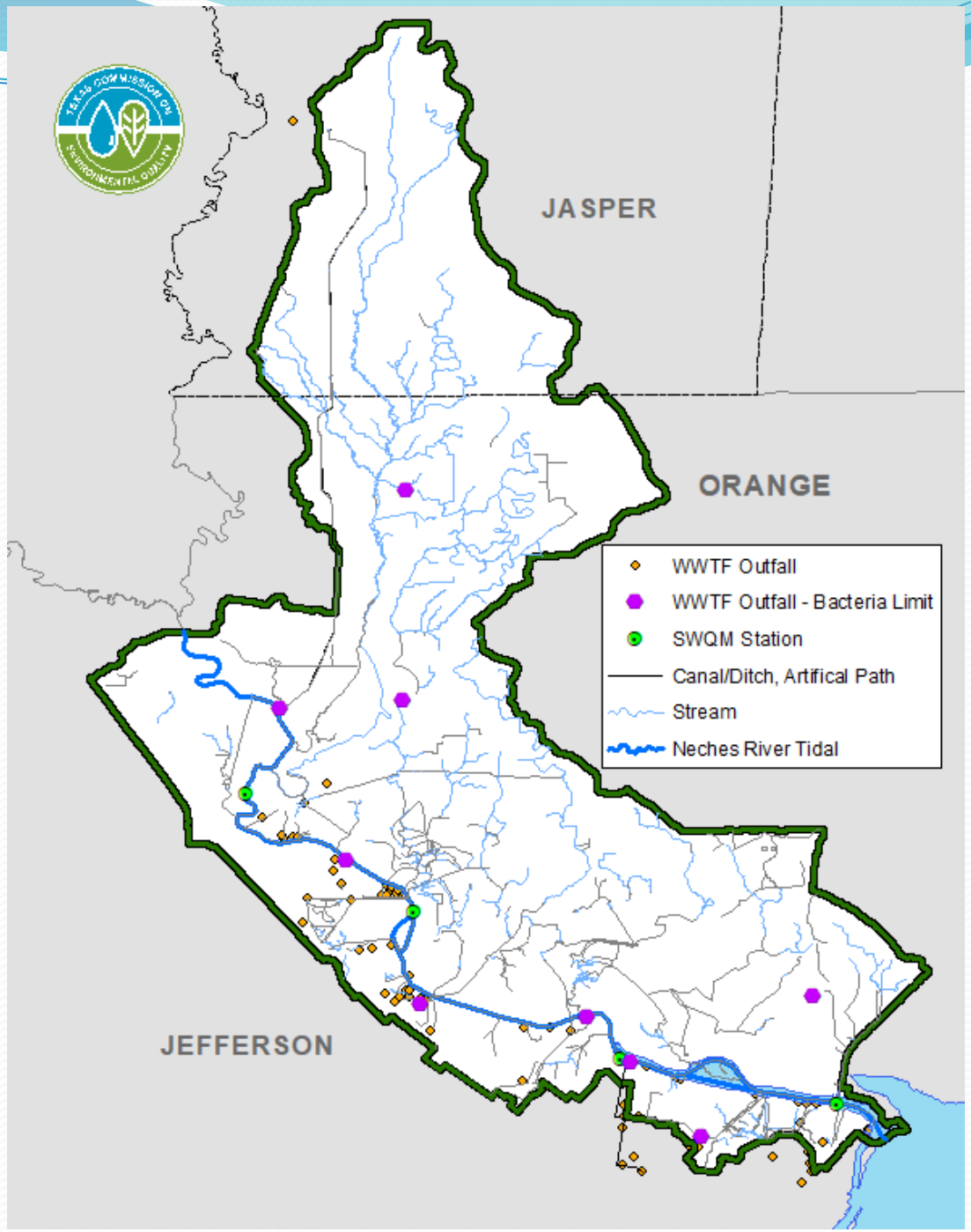
TMDL Equation

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

- **$WLA_{(WWTF)}$** – wasteload allocation for WWTF discharges
- **$WLA_{(SW)}$** – wasteload allocation for aggregate regulated stormwater discharges
- **LA** – load allocation
- **FG** – future growth
- **MOS** – margin of safety
  - Units per day

WLA_{WWTF}

- Nine WWTFs with bacteria limits due to domestic discharges
  - Six Industrial WWTFs
  - Three Domestic WWTFs



Compliance requirements for WWTFs in the Neches River Tidal TMDL Watershed

AU	TPDES Permit No.	Facility/Permittee	Outfall	Permitted Discharge (MGD)	Bacteria Monitoring Requirement	Min. Monitoring Frequency	Daily Average Limit (cfu/100mL)	Single Grab or Daily Max Limit (cfu/100mL)
0601_02	WQ0000316000	Beaumont Terminal/Phillips 66 Gulf Coast Properties LLC and Phillips 66 Pipeline LLC	002	Continuous and flow-variable	Enterococci	Monthly	35	89
0601_01	WQ0000336000	Sabine Plant/Entergy Texas, Inc.	801	Intermittent and flow-variable	Enterococci	Monthly	NA	89
0601_02	WQ0000473000	Lucite Beaumont Facility/Lucite International, Inc.	101	Flow-variable	Enterococci	Monthly	35	104
0601_04	WQ0000493000	Evadale Mill/WestRock Texas, LP	001	65 (daily average)	Enterococci	Monthly	35	104
0601_01	WQ0000511000	Joint Wastewater Treatment Plant/Huntsman Petrochemical LLC, Indorama Ventures Propylene Oxides LLC, Bluehall Incorporated, and TPC Group LLC	301	15.0 (daily average)	Enterococci	Weekly	35	104
0601_03	WQ0001727000	Lower Neches Valley Authority North Regional Treatment Plant/Neches River Treatment Corporation and Lower Neches Valley Authority	001	21.0 (daily average)	Enterococci	Weekly	35	89
0601_02	WQ0010477004	Main Wastewater Treatment Facility/City of Port Neches	001	4.98 (annual average)	Enterococci	Weekly	35	104
0601_04	WQ0010875001	Oak Lane Wastewater Treatment Facility/Orange County Water Control and Improvement District No. 1	001	3.0 (annual average)	*E. coli*	Daily	126	399
0601_04	WQ0014049001	Sugar Pines Mobile Home Community Wastewater Treatment Facility/Boggs Sugar Pines, LLC	001	0.0225 (daily average)	*E. coli*	Quarterly	126	399

Preliminary WLA_{WWTF}

TPDES Permit	Outfall	Receiving AU	Facility	Full Permitted Discharge (MGD)	*E. coli* WLA_{WWTF} (Billion cfu/ day)	Enterococci WLA_{WWTF} (Billion cfu/ day)
WQ0014049001	001	0601_04	Sugar Pines Mobile Home Community WWTF	0.0225	0.107	0.030
WQ0000493000	001	0601_04	Westrock - Evadale Mill	65	310.025	86.118
WQ0010875001	001	0601_03	OCWID1 - Oak Lane WWTF	3.0	14.309	3.975
WQ0001727000	001	0601_03	LNVA North Regional Treatment Plant	21.0	100.162	27.823
WQ0010477004	001	0601_02	City of Port Neches - Main WWTF	4.98	23.753	6.598
WQ0000511000	301	0601_02	Huntsman et al - Joint WWTF	15.0	71.544	19.873
WQ0000473000	101	0601_02	Lucite Beaumont Facility	n/a	n/a	n/a
WQ0000336000	801	0601_01	Entergy - Sabine Plant	n/a	n/a	n/a
WQ0000316000	002	0601_01	Phillips 66 - Beaumont Terminal	n/a	n/a	n/a
				AU 0601_04 Total	310.132	**86.148**
				AU 0601_03 Total	424.603	**117.946**
				AU 0601_02 Total	519.900	**144.417**
				AU 0601_01 Total	519.900	**144.417**

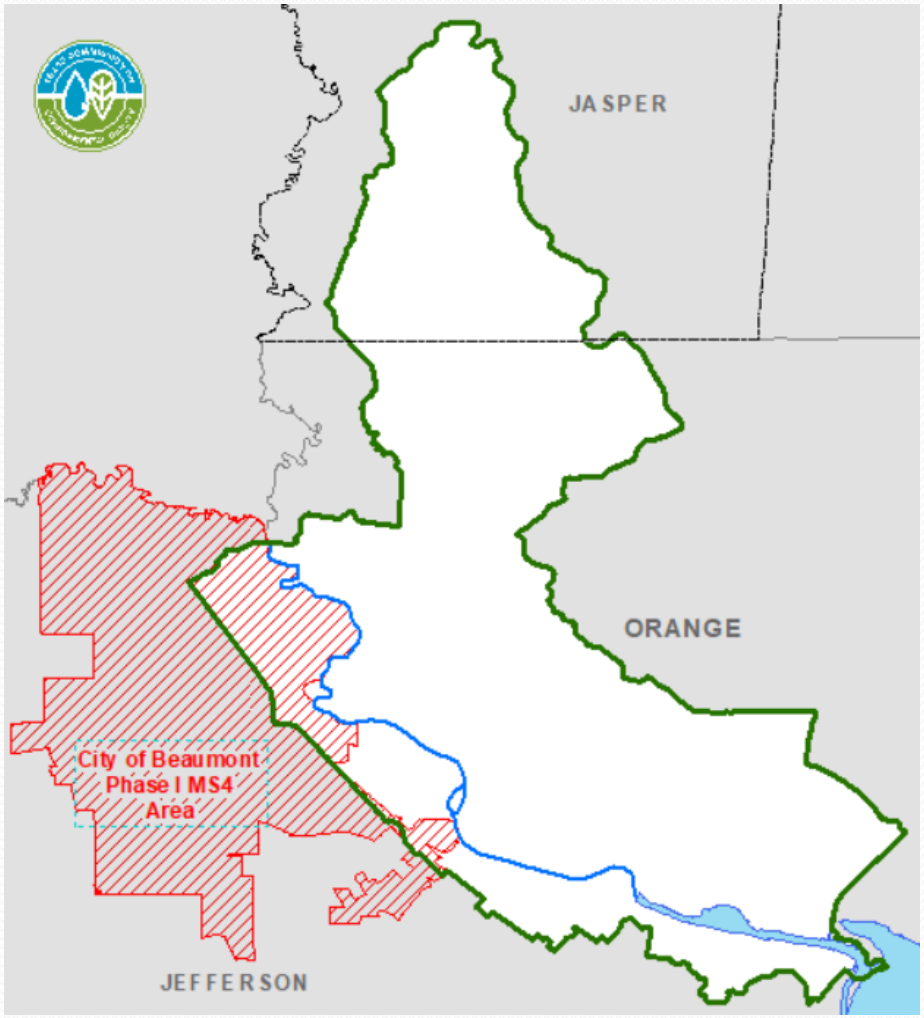
Aggregate Regulated Stormwater - WLA_{SW}

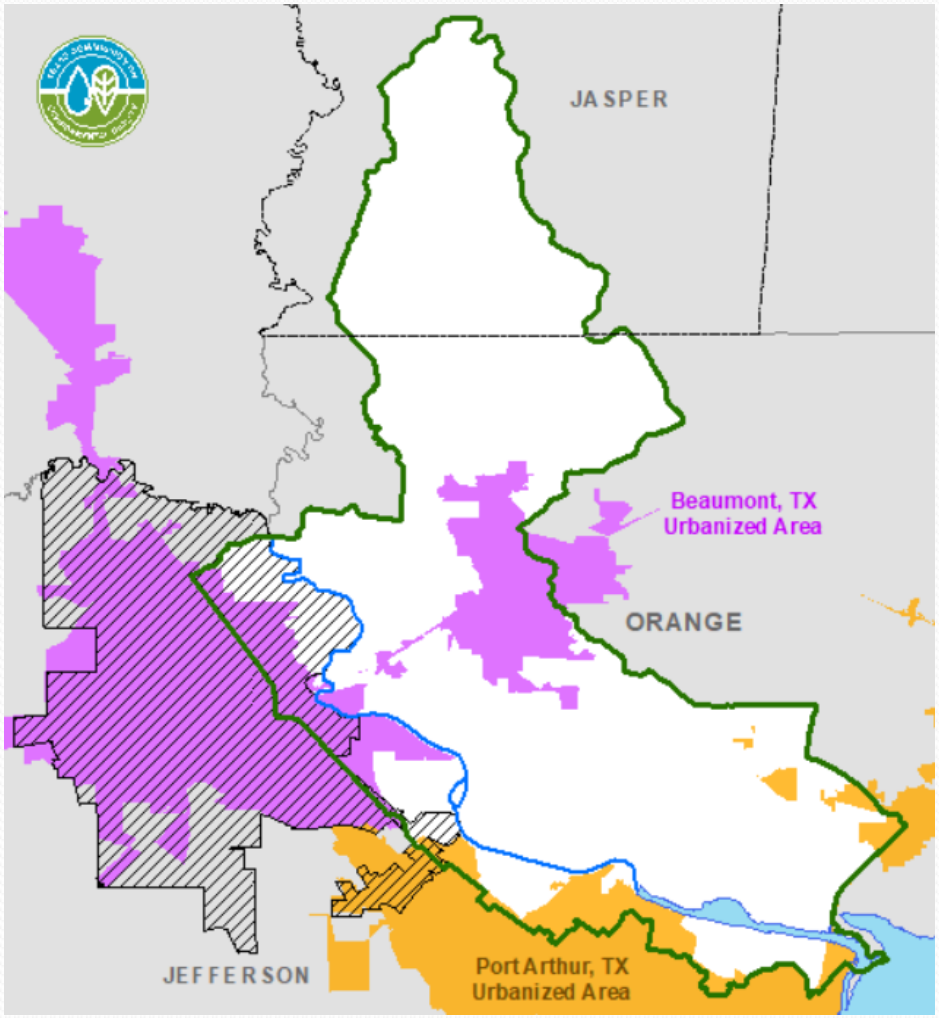
- One WLA for regulated stormwater is determined for each AU watershed (TMDL)
  - May include the following areas:
    - Phase I MS4 (jurisdictional boundary of permittee)
    - Phase II MS4 General Permit Urbanized Area (UA)
    - Individual WWTFs with stormwater
    - Other General Permits (GPs) with stormwater
      - Construction, Multi-Sector, Concrete Production
- Area of Regulated Stormwater (ARS) is the term used in the Neches River Tidal TSD

Aggregate Stormwater WLA_{SW}

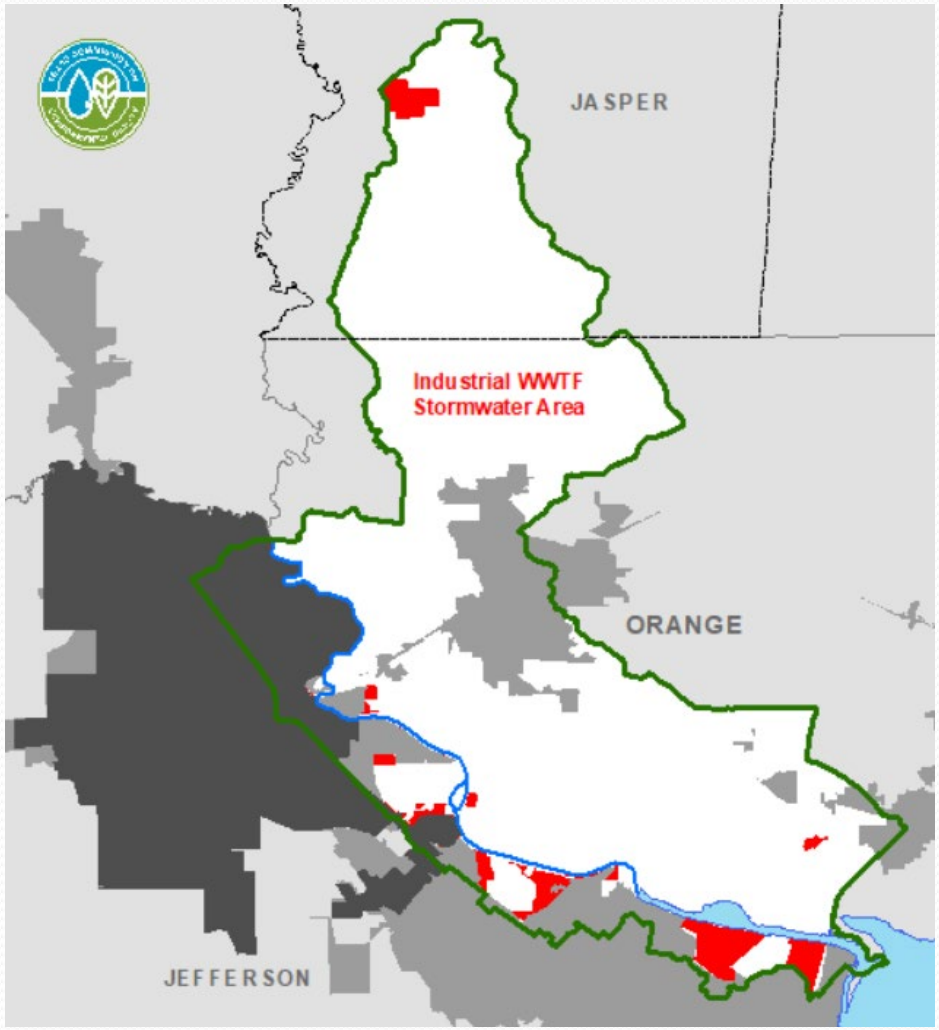
- One WLA_{SW} is provided for each TMDL
  - Negate double-counting of overlapping regulated SW areas
  - Recognition that regulated stormwater loads are not daily, not uniform, and may be widespread in a watershed
  - Entities with regulation stormwater authorizations will be listed in the TMDL but not given an individual WLA (Table 9 of TSD)

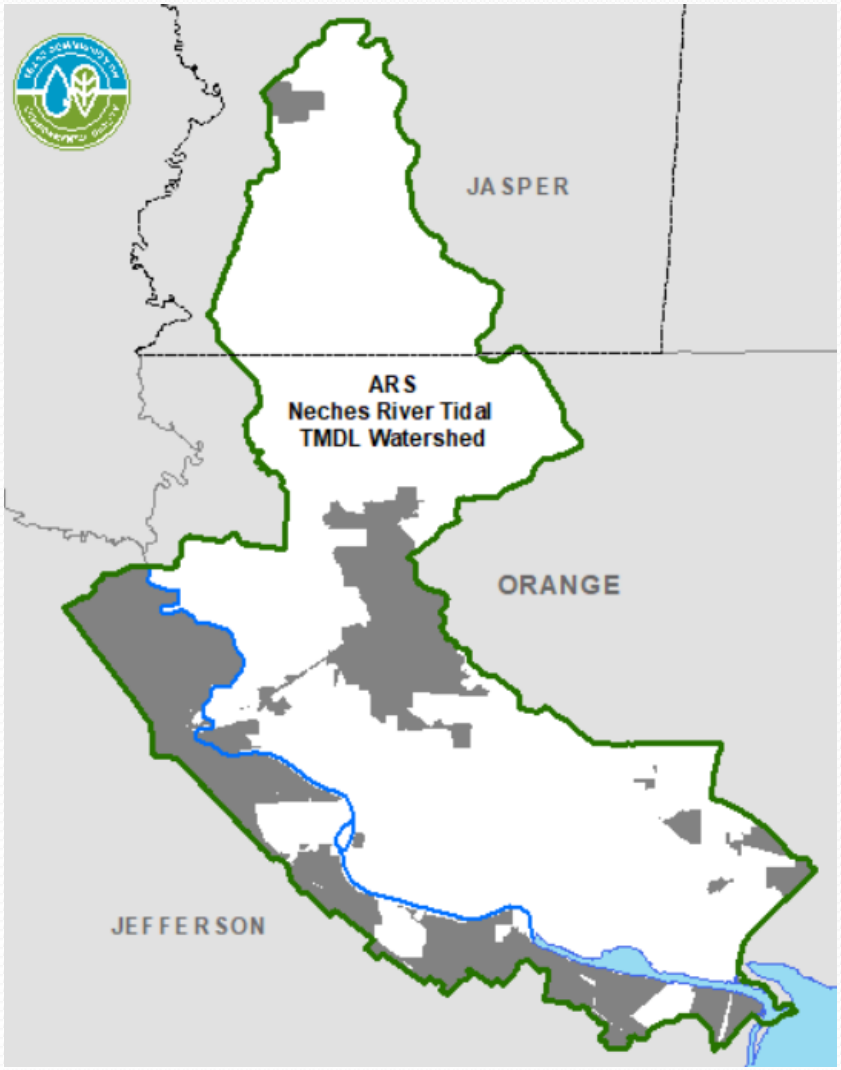
ARS – Neches River Tidal (0601)





ARS – Neches River Tidal (0601)





ARS for Neches River Tidal Watershed.

AU	Total ARS (mi^2)	Watershed Area (mi^2)	Percent of Watershed Area
0601_04	16.24	79.60	20.4
0601_03	30.67	131.17	23.4
0601_02	42.18	166.70	25.3
0601_01	49.05	210.75	23.3

WLA_{SW} Calculations

WLA_{SW} is the sum of loads from regulated stormwater sources and is calculated as:

$$WLA_{SW} = (TMDL - WLA_{WWTF} - FG - MOS) \times FDA_{SWP}$$

Where:

WLA_{SW} = the sum of all regulated stormwater loads
TMDL = the total maximum daily load
WLA_{WWTF} = the sum of WWTF loads
FG = the sum of future growth loads from potential regulated facilities
MOS = the margin of safety load
FDA_{SWP} = the proportion of drainage area under jurisdiction of stormwater permits

Preliminary Neches River Tidal TMDL Allocations

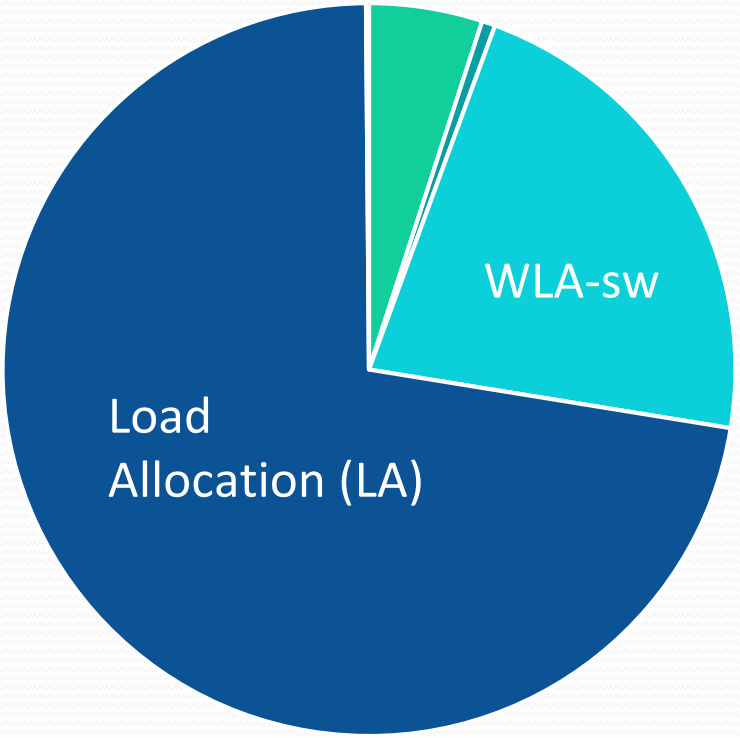
(units of billion cfu/day Enterococci)

AU	TMDL	MOS	WLA_{WWTF}	WLA_{SW}	LA	FG
0601_04	21,974.371	1,098.719	86.148	4,236.648	16,531.233	21.623
0601_03	22,147.344	1,107.367	117.946	4,888.828	16,003.599	29.604
0601_02	22,844.372	1,142.219	144.417	5,444.936	16,076.551	36.249
0601_01	24,480.762	1,224.038	144.417	5,376.722	17,699.336	36.249

TMDL (0601_01) = 24,480.762

billion cfu/day Enterococci

Allocations

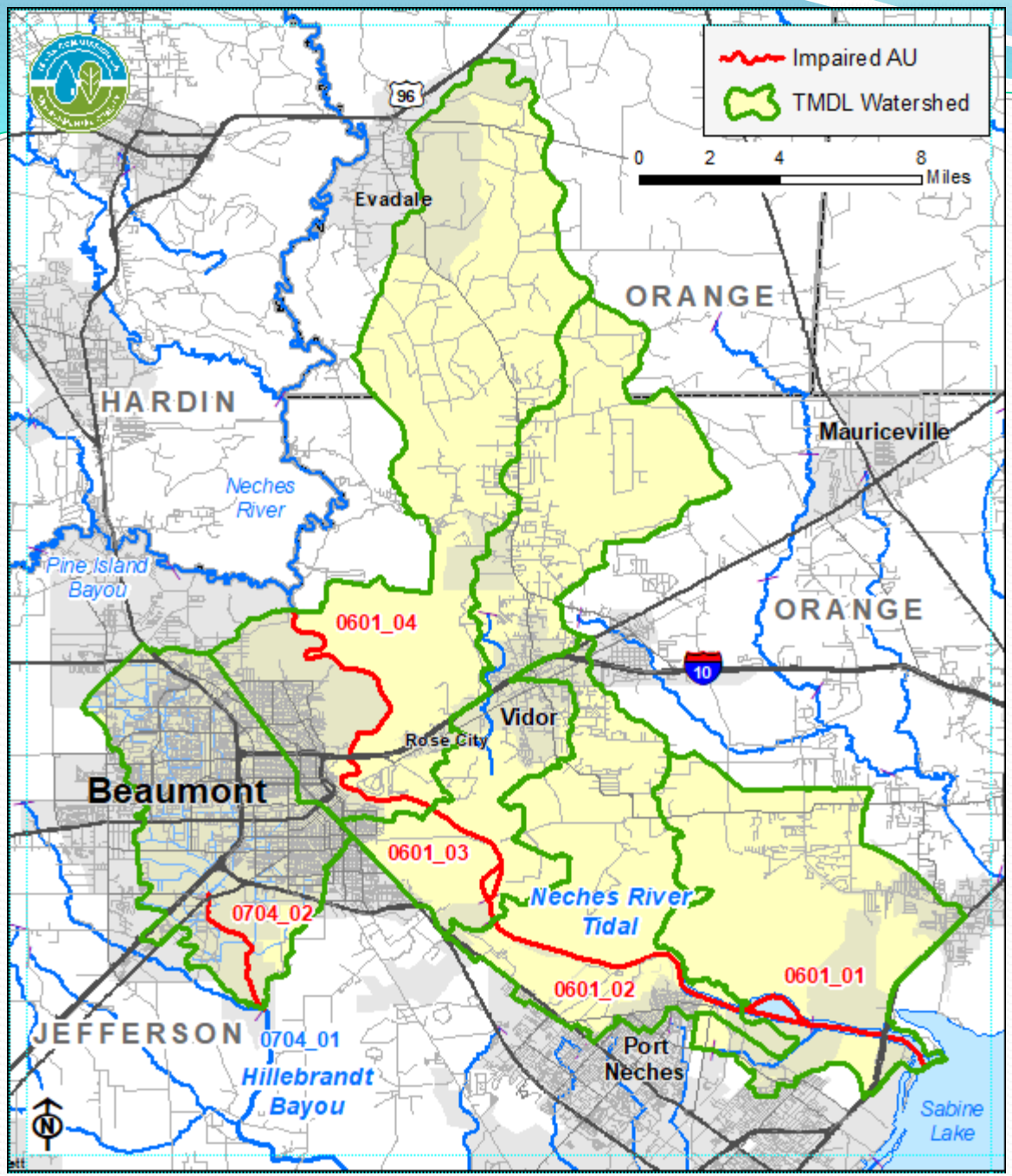


TMDL – Total Maximum Daily Load

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

TMDL Implementation Plan

- Outlines the TMDL I-Plan measures and activities, as determined by the local watershed stakeholders
- Long term, iterative plan
- I-Plan priorities may differ among watersheds:
  - Infrastructure, centralized wastewater treatment
  - Public education and outreach
  - Best management practices (BMPs)
  - Water quality monitoring



Regional I-Plan

Next Steps

- Stakeholder review of TSD. Provide feedback to TCEQ.
- Seek engaged participation by stakeholders in the I-Plan development
  - Coordination Committee
  - Work Groups
- Balanced stakeholder group
  - cities, counties, agriculture, parks and recreation, industries, economic development, environmental, residents

TMDL and I-Plan Timelines

- *One Draft Total Maximum Daily Load for Indicator Bacteria in Hillebrandt Bayou, AU 0704_02*
  - Public review and comment - Spring 2021
  - Request commission adoption – Summer 2021
- *Four Draft Total Maximum Daily Loads for Indicator Bacteria in Neches River Tidal, AUs 0601_01, 0601_02, 0601_03, 0601_04*
  - Public review and comment - Fall 2021
  - Request commission adoption – 2022
- *Draft I-Plan for Hillebrandt Bayou and Neches River Tidal Watersheds*
  - Public review and comment - Fall 2021
  - Request commission approval – 2022

Questions?

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