Nutrient Criteria Progress and Updates

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Current Standards

- §307.4. General Criteria
- §307.7. Site-Specific Uses and Criteria
- §307.9. Determination of Standards Attainment

Current Standards

- §307.4. General Criteria
  - §307.4(e) – Nutrients from permitted discharges or other controllable sources must not cause excessive growth of aquatic vegetation that impairs an existing, designated, presumed, or attainable use. Site-specific nutrient criteria, nutrient permit limitations, or separate rules to control nutrients in individual watersheds are established where appropriate after notice and opportunity for public participation and proper hearing.
- §307.7. Site-Specific Uses and Criteria
  - §307.7(b)(4)(E) – Numeric and narrative criteria are intended to protect multiple uses. Nutrient numeric criteria for specific reservoirs are listed in Appendix F of §307.10.

*Full Text available in Title 30, Chapter 307 of the Texas Administrative Code

Current Standards (cont.)

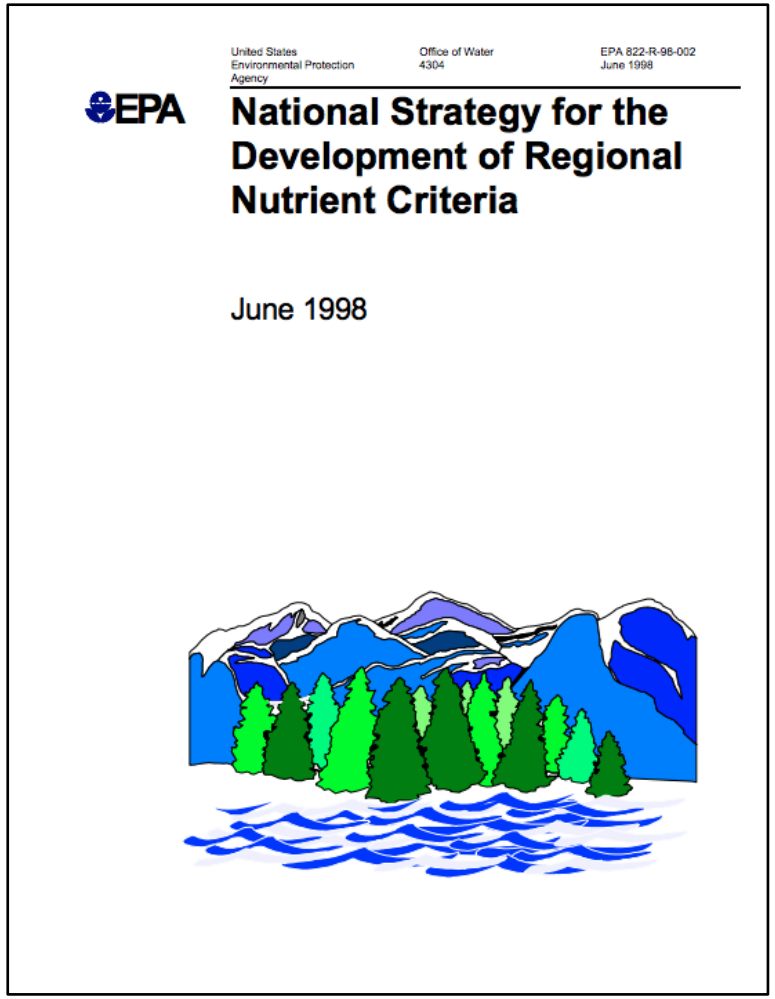
- §307.9. Determination of Standards Attainment
  - §307.9(e)(7) – Assessment procedures for chlorophyll *a* criteria in reservoirs must be in accordance with the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas*. Data must be collected at the sampling stations used for calculating the criteria, or comparable stations in the main pool of the reservoir. Assessment values are to be used for assessment purposes only and not permitting.

*Full Text available in Title 30, Chapter 307 of the Texas Administrative Code

Nutrient Criteria Development Plan

- TCEQ Nutrient Criteria Development Plan (NCDP) was developed to comply with 1998 EPA National Nutrient Criteria Strategy.

- TCEQ submitted plans to EPA in 2001, 2006, 2014



2014 Nutrient Criteria Development Plan

- Purpose: Provide a framework for the continued development of numeric nutrient criteria for the State of Texas

- 2014 Nutrient Criteria Development Plan
  - Nutrient Criteria Development Plan (texas.gov)

Strategy of the 2014 NCDP

RESERVOIRS

ESTUARIES

RIVERS & STREAMS

WETLANDS

BOUNDARY WATERS

Strategy of the 2014 NCDP

RESERVOIRS

ESTUARIES

RIVERS & STREAMS

Ongoing project: Estuaries

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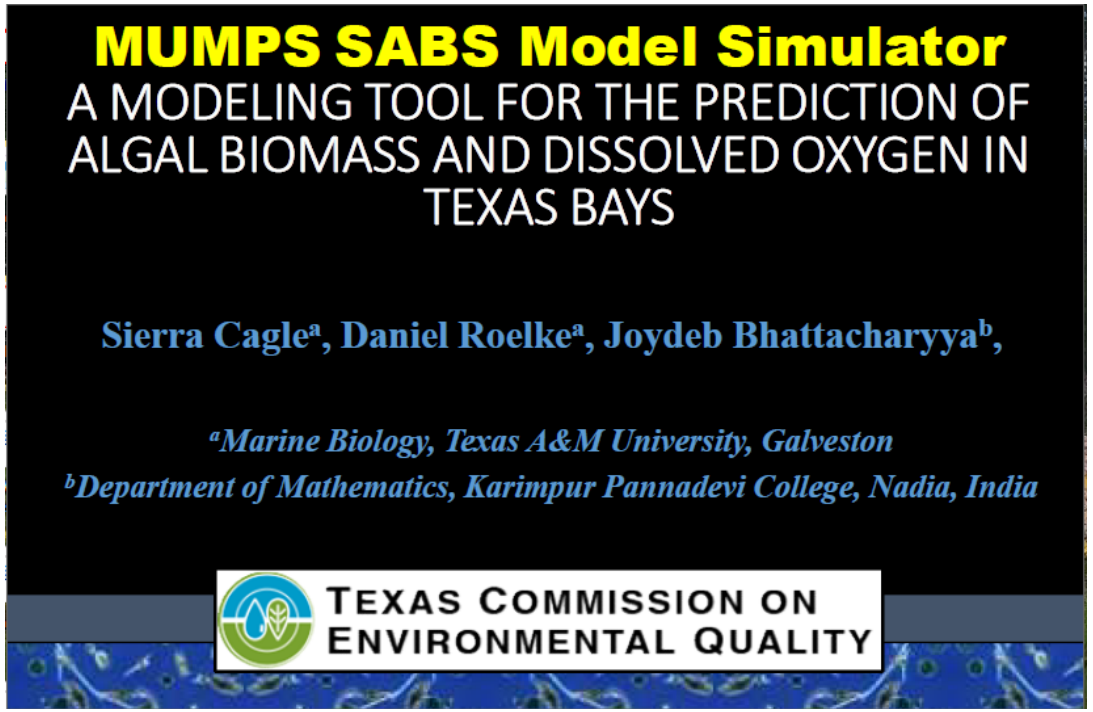
- Multispecies Multi-nutrient Plankton Model (MUMPS) in development
- Multi phase contract which started in 2017



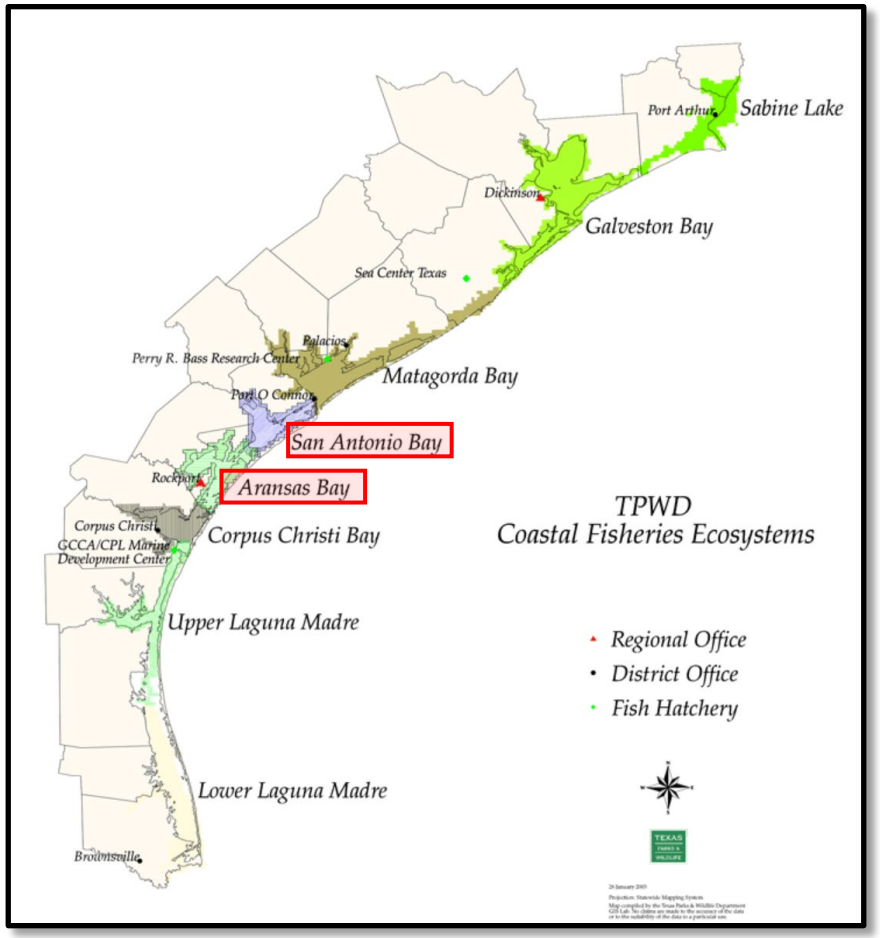
Ongoing project: Estuaries

- Results may be used for the evaluation of complex stressor-response relationships in San Antonio, Copano/Aransas, Baffin and Matagorda Bays

Dr. Cagle measuring DO in San Antonio Bay at the start of productivity – irradiance experiment

Moving forward: Estuaries

- MUMPS final phase
  - Expand into upper and lower parts of Texas coast



Moving forward: Reservoirs

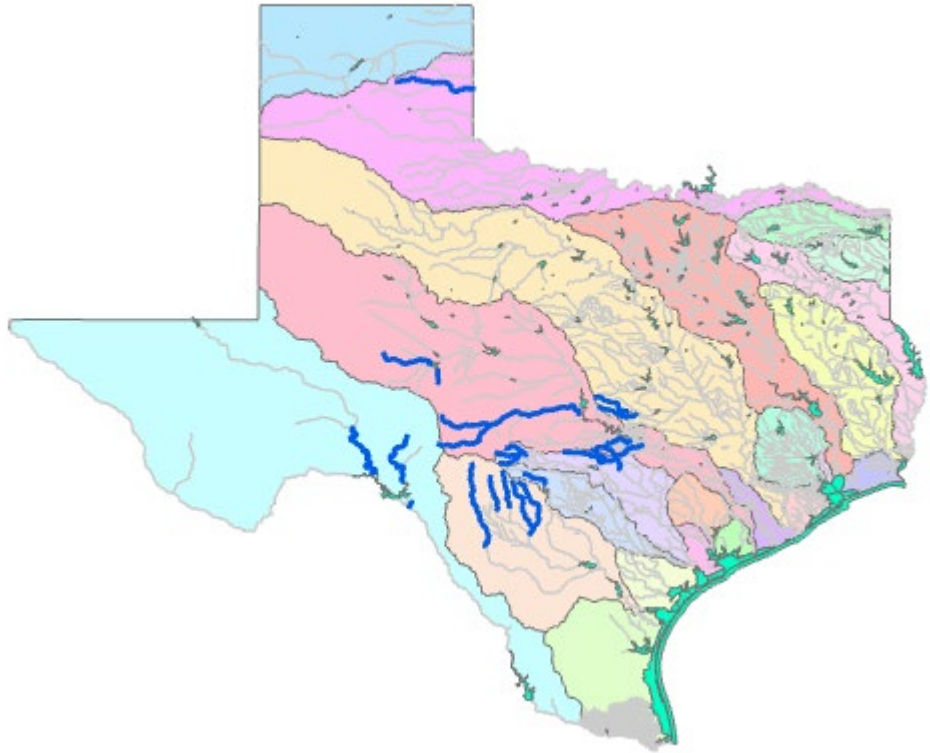
- Coordinating with EPA and Tetra Tech through the N-STEPS program
- Focus on 75 reservoirs proposed in the 2010 TSWQS

- Goal:
  - Develop nutrient criteria for Total Phosphorus (TP), Total Nitrogen (TN), and Chlorophyll *a* (Chl *a*) for the 36 reservoirs with disapproved Chl *a* criteria

  - Develop TN and TP criteria for the 39 reservoirs with approved Chl *a* criteria

Moving forward: Rivers and Streams

- 22 Nutrient sensitive streams
- Background concentration for TP < 0.01 mg/L



Moving forward: Rivers and Streams

- Limitation: TP data mostly reported at LOQ (0.02 mg/L)
- Question: Can we reliably measure down to 0.01 mg/L for TP?
- CRP laboratory study to address limitation

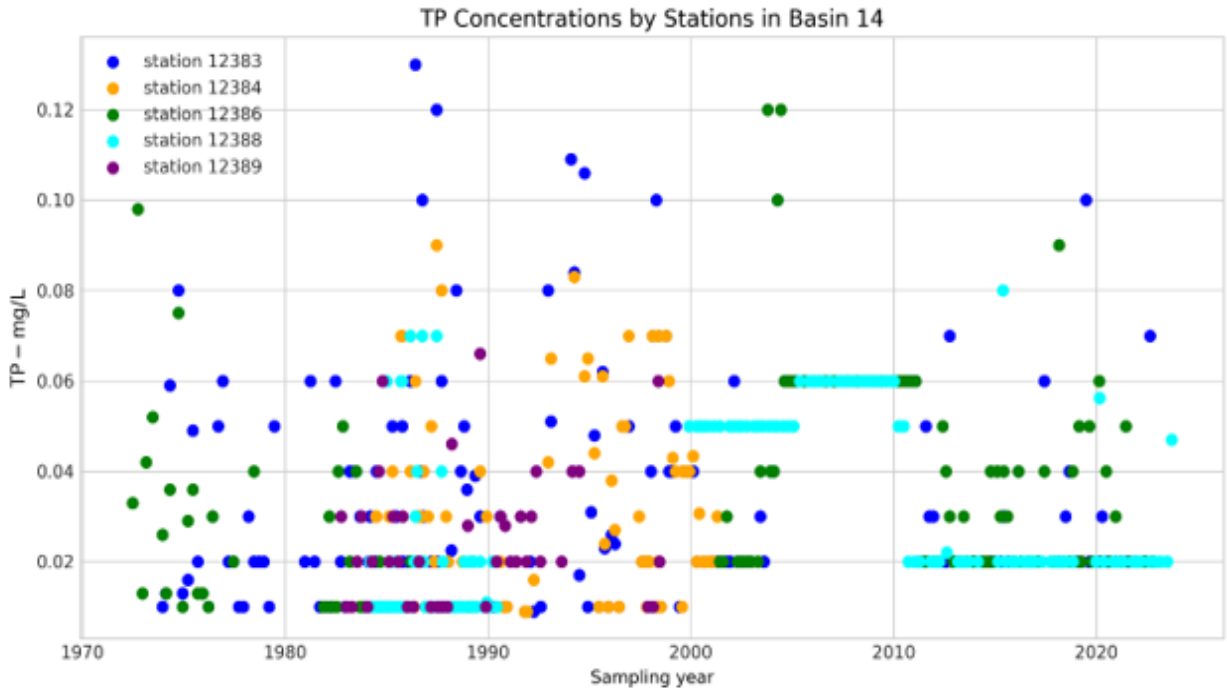


Figure 11: Total phosphorus concentrations for stations 12383, 12384, 12386, 12388 and 12389 located on the Llano River.

Moving forward: Rivers and Streams

- Why does it matter?
  - studies show ecological impacts at TP concentration of 0.01 mg/L for these types of streams
  - first step for the WQS program towards establishment of protective thresholds and development of TP numeric criterion

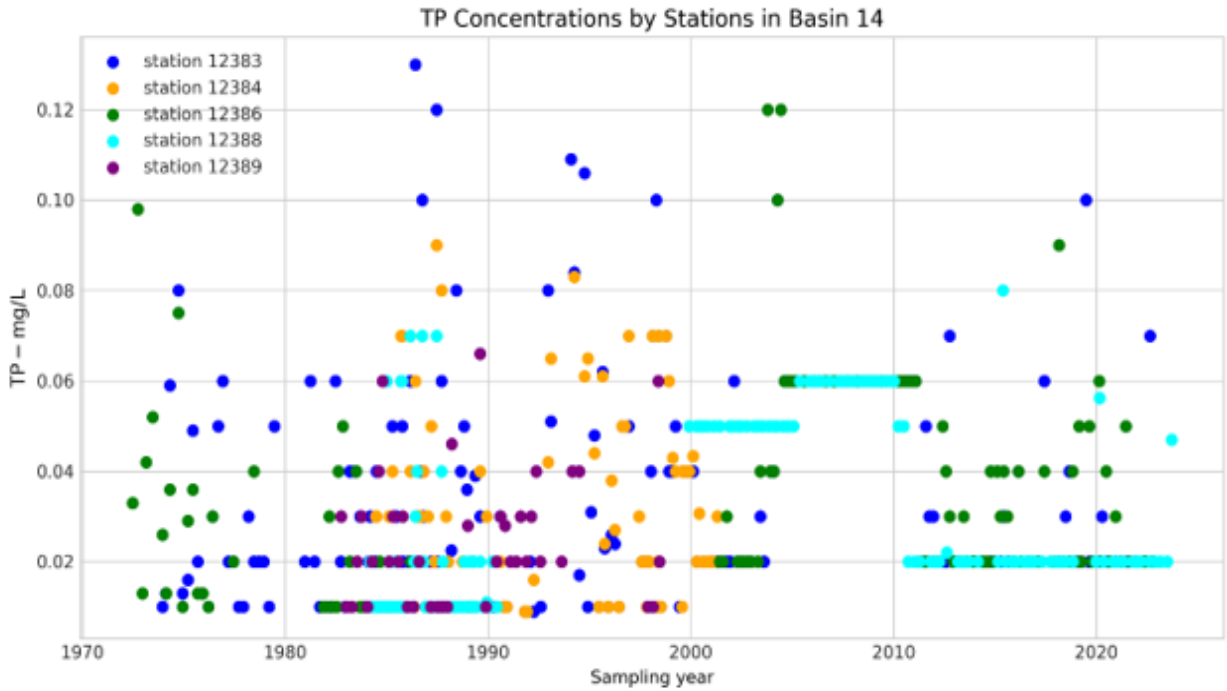


Figure 11: Total phosphorus concentrations for stations 12383, 12384, 12386, 12388 and 12389 located on the Llano River.

Nutrient Criteria Development Advisory Workgroup: How to Participate

Sign up for email notifications:

Texas Commission on Environmental Quality (govdelivery.com)

Website:

https://www.tceq.texas.gov/waterquality/standards/stakeholders/nutrient_criteria_group.html

Questions?

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