Brazos River Authority

Update on Waterbodies Not Meeting State Standards/Criteria and FY2020 Proposed Monitoring

Presented by
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Environmental Programs Coordinator

Meeting Date: April 11, 2019

Impairments - Basin Overview

In the draft 2016 IR:

Out of a total of 250 waterbodies (417 Assessment units (AUs)) evaluated...

- **8** waterbodies (11 AUs) were **added** to the impaired list and **7** waterbodies (9 AUs) were **de-listed** (as compared to the 2014 IR)
- **76** waterbodies (94 AUs) are listed as **impaired** on the draft 2016 303(d) List (≈30/≈23%) (-2)
- **63** waterbodies (75 AUs) are listed as **impaired** due to elevated **bacteria** (≈25/≈18%) (-3)
- **9** waterbodies (10 AUs) are listed for as **impaired** due to **depressed dissolved oxygen** (≈4%/≈2%) (+1)
- **5** waterbodies (9 AUs) are listed as **impaired** due to **chloride, sulfate and/or TDS** (≈ 2%/≈2%) (+1)

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Impairments - Basin Overview

In the draft 2016 IR:

- **2** waterbodies are listed for **high pH** ↑ (+1)
- **1** waterbody listed as **impaired** due to an **impaired fish community** ↑ (+1)
- **1** waterbody listed as **impaired** due to **excessive algal growth** ↑ (+1)
- **2** waterbodies are listed as **impaired** due to **toxicity in sediment** (=)
- **1** waterbody listed as **impaired** due to **mercury in edible tissue** (=)

- 76 waterbodies (113 AUs) are identified as having concerns based on screening levels for **algal growth and/or elevated nutrients** (≈30%/≈ 27%) ↓ (-23)

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General Monitoring Strategy for FY 2020

- Maintain current routine monitoring effort throughout the Basin. BRA currently routinely monitors 108 stations.
  - There is potential to add additional stations if they can be incorporated into our current run schedule
  - In instances where stations are dropped, we will negotiate in the Coordinated Monitoring Meeting to pick up stations and maintain effort throughout the basin
- BRA will continue instream flow based biological monitoring in support of the BRA's Water Management Plan Environmental Studies and share data with CRP/SWQM as possible
- BRA will perform native and endangered mussel monitoring as negotiated with the USFWS.

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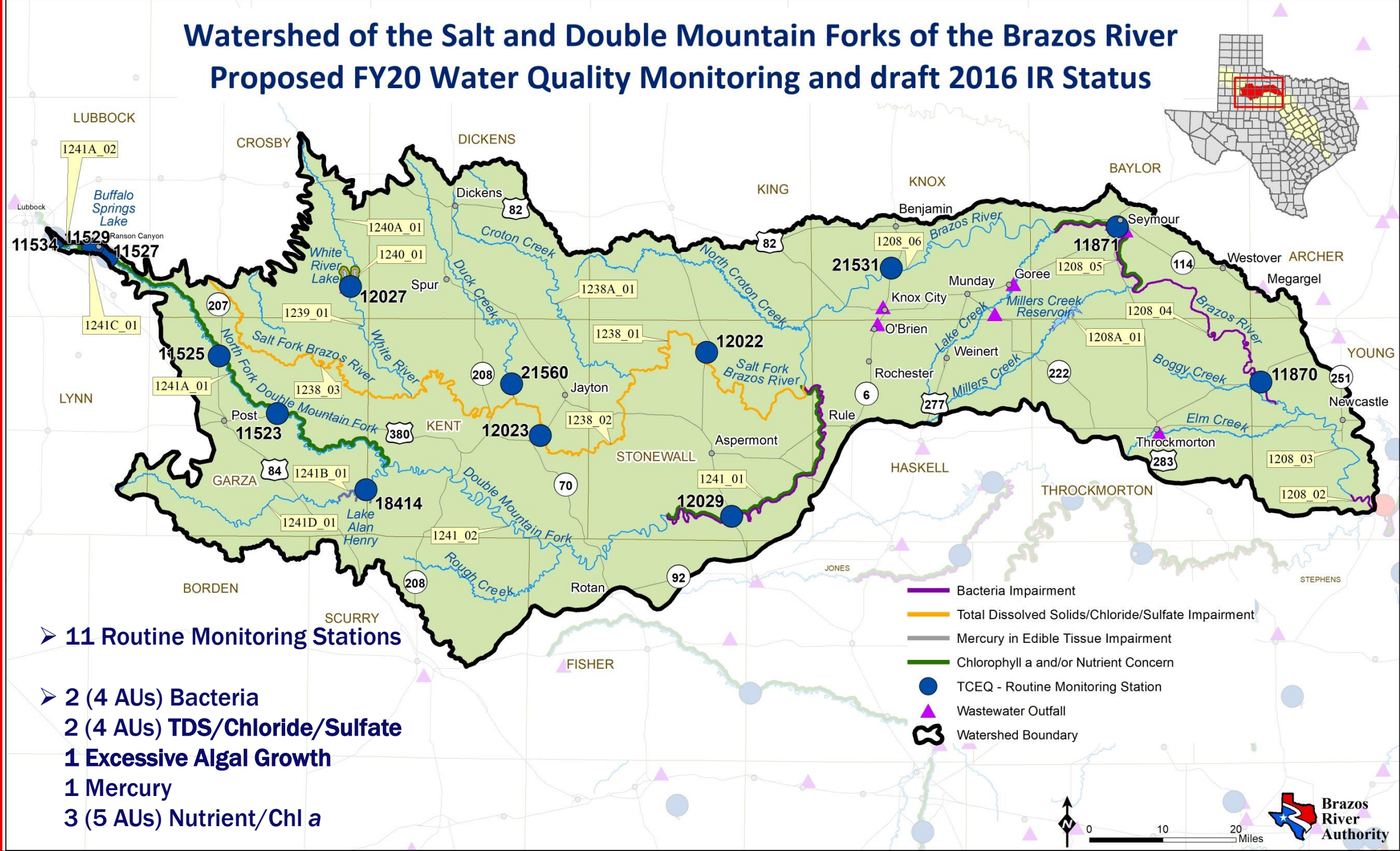
Watershed of the Salt and Double Mountain Forks of the Brazos River
Proposed FY20 Water Quality Monitoring and draft 2016 IR Status



- 11 Routine Monitoring Stations

- 2 (4 AUs) Bacteria
  2 (4 AUs) **TDS/Chloride/Sulfate**
  1 Excessive Algal Growth
  1 Mercury
  3 (5 AUs) Nutrient/Chl *a*

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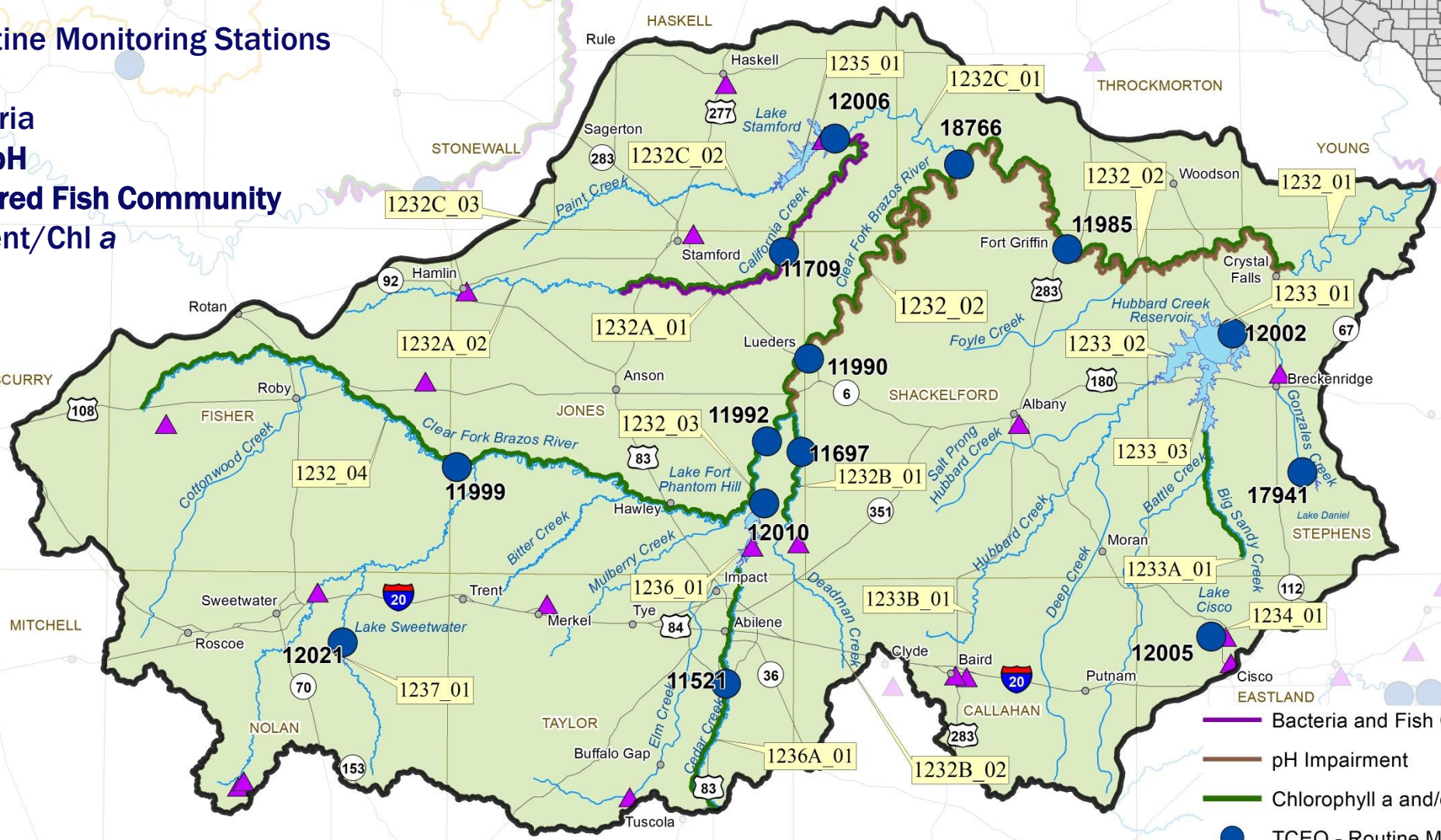
Watershed of the Clear Fork of the Brazos River
Proposed FY20 Water Quality Monitoring and draft 2016 IR Status

- 14 Routine Monitoring Stations
- 1 Bacteria
  1 High pH
  1 Impaired Fish Community
  6 Nutrient/Chl *a*



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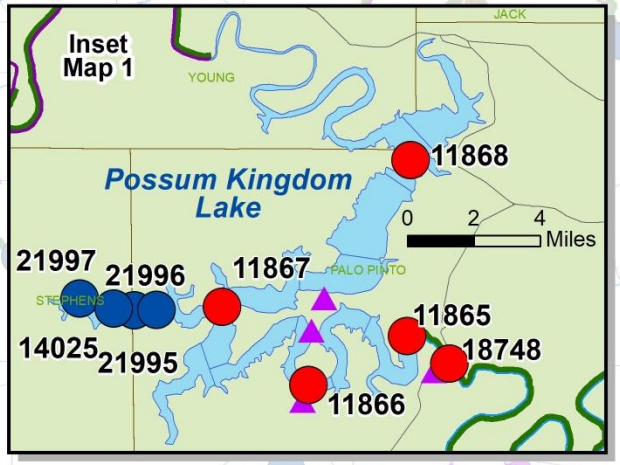
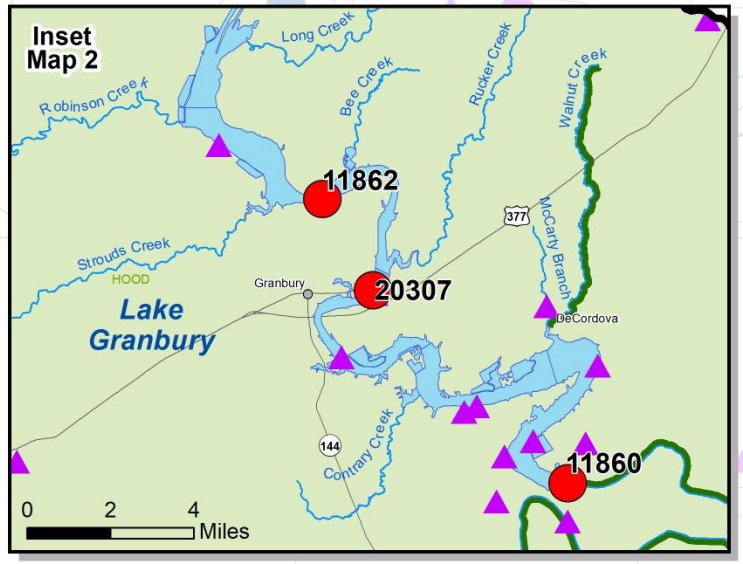
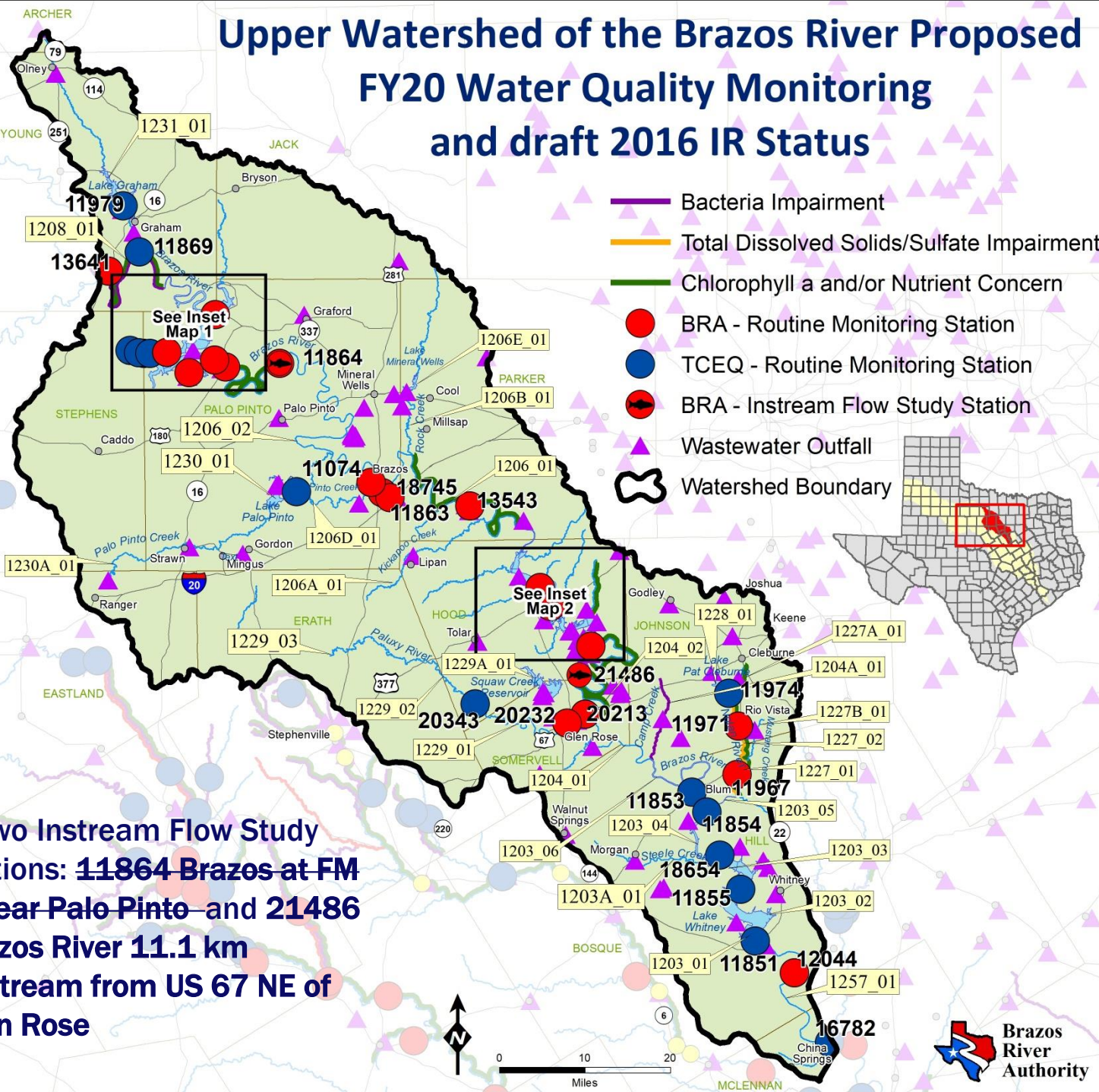
Upper Watershed of the Brazos River Proposed FY20 Water Quality Monitoring and draft 2016 IR Status

- 29 Routine Monitoring Stations
- 2 Bacteria
  1 (2 AUs) TDS/Sulfate/**Chloride**
  6 Nutrient/Chl *a*







- Two Instream Flow Study stations: ~~11864 Brazos at FM 4 near Palo Pinto~~ and 21486 Brazos River 11.1 km upstream from US 67 NE of Glen Rose

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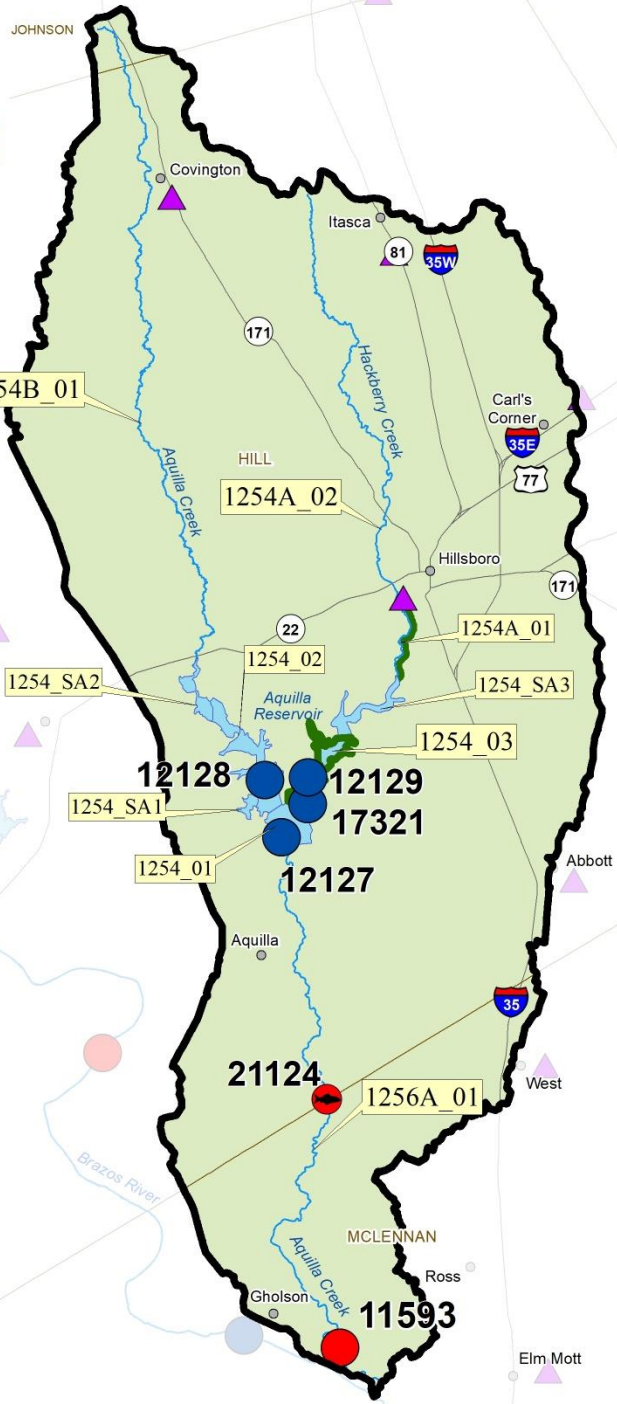
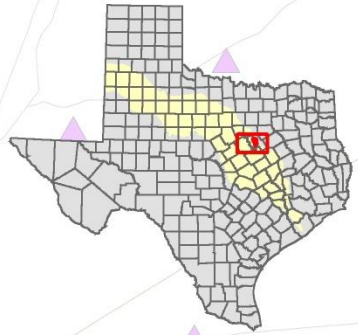
Aquilla Creek Watershed
Proposed FY20 Water Quality Monitoring and draft 2016 IR Status

- 5 Routine Monitoring Stations
- No impairments in this watershed
  2 Nutrient/Chl *a*
- One Instream Flow Study station:
  ~~21124 Aquilla Creek at FM 2114 near Aquilla~~





- Chlorophyll a and/or Nutrient Concern
- BRA - Routine Monitoring Station
- TCEQ - Routine Monitoring Station
- BRA - Instream Flow Study Station
- Wastewater Outfall
- Watershed Boundary

0 5 10 Miles

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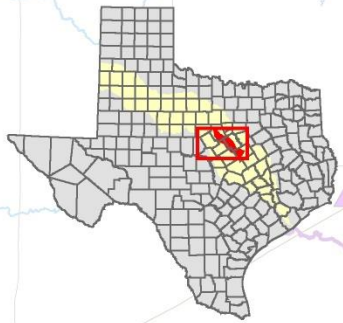
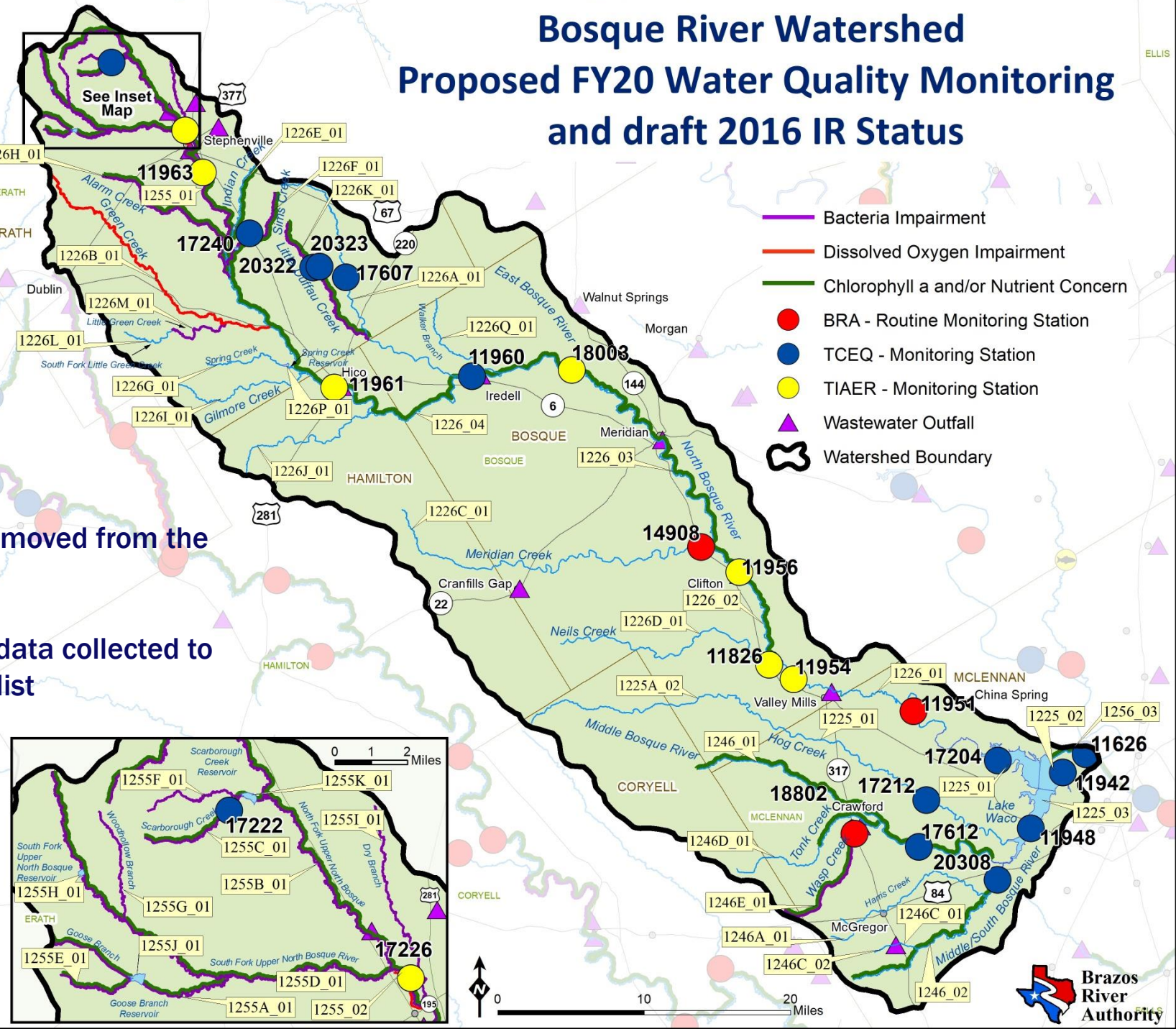
Bosque River Watershed
Proposed FY20 Water Quality Monitoring and draft 2016 IR Status



- 23 Routine Monitoring Stations
- 14 (17 AUs) Bacteria
  2 DO
  14 Nutrient/Chl *a*
- Potential for 7 waterbodies to be removed from the 303d list for bacteria
- 2 waterbodies will need additional data collected to determine removal from the 303d list
- 1226 & 1255 - North Bosque River Phosphorus TMDL



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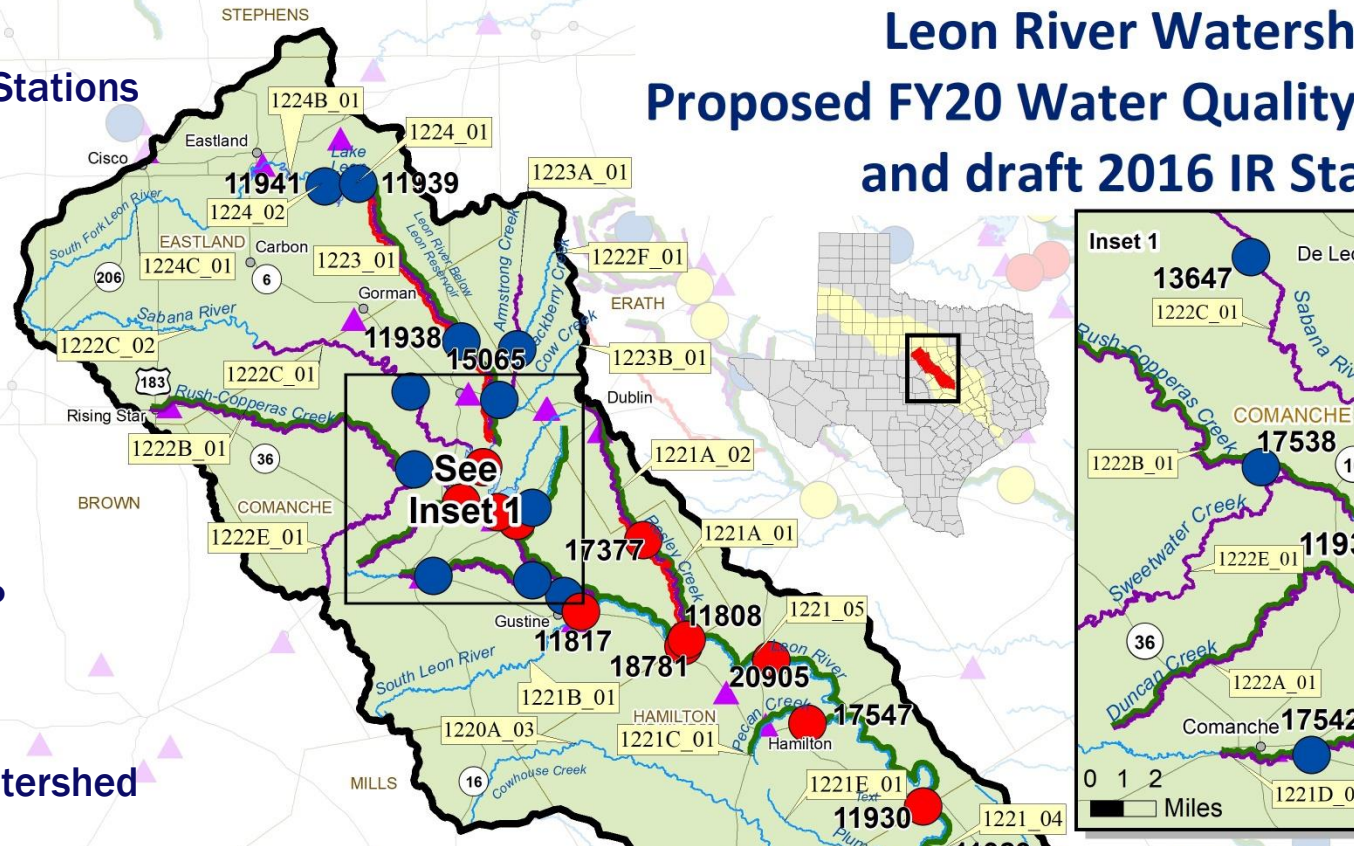
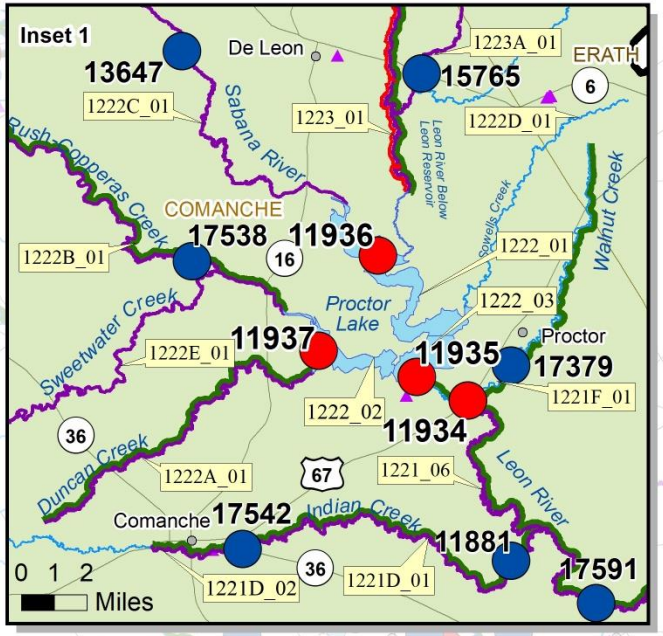
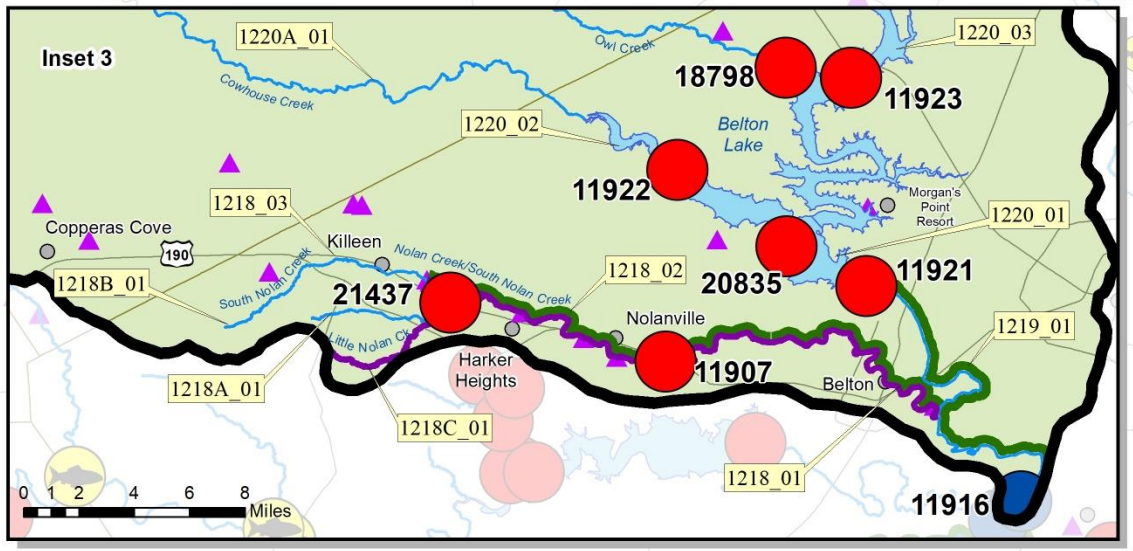
Leon River Watershed
Proposed FY20 Water Quality Monitoring and draft 2016 IR Status

- 24 Routine Monitoring Stations
- 11 (14 AUs) Bacteria
  2 DO
  11 Nutrient/Chl *a*.
- Potential for 9 waterbodies to be removed from the 303d list for bacteria
- **1221 - Leon River WPP**
- Priority Designation by USDA
- **1218 –Nolan Creek Watershed Partnership and WPP**







- Bacteria Impairment
- Dissolved Oxygen Impairment
- Chlorophyll a and/or Nutrient Concern
- BRA - Routine Monitoring Station
- TCEQ - Routine Monitoring Station
- BRA - Instream Flow Study Station
- Wastewater Outfall
- Watershed Boundary

0 10 20 Miles

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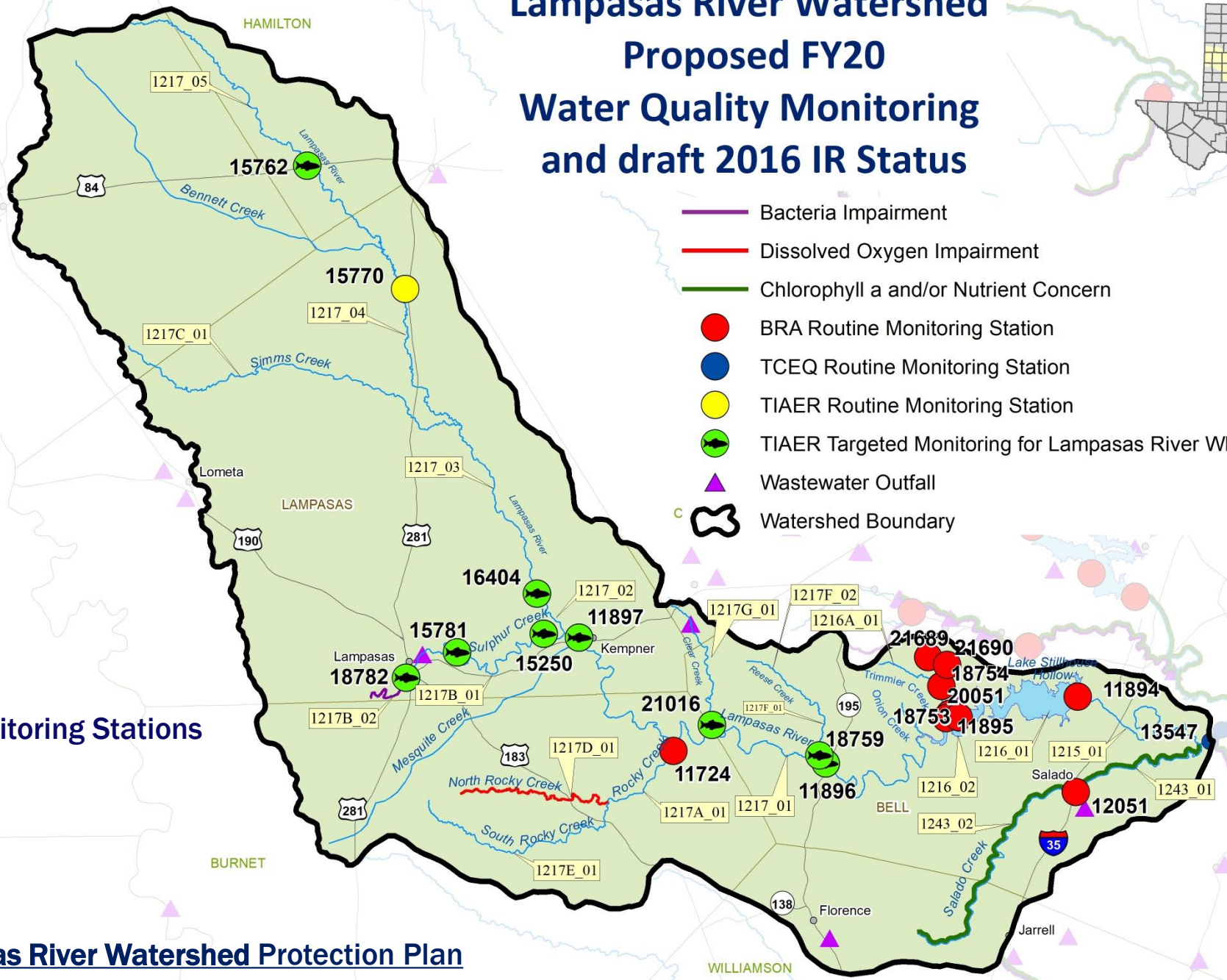
Lampasas River Watershed Proposed FY20 Water Quality Monitoring and draft 2016 IR Status



- 11 Routine Monitoring Stations
- **1 Bacteria**
- **1 DO**
- **2 Nutrient/Chl *a***

- **1217 - Lampasas River Watershed Protection Plan**

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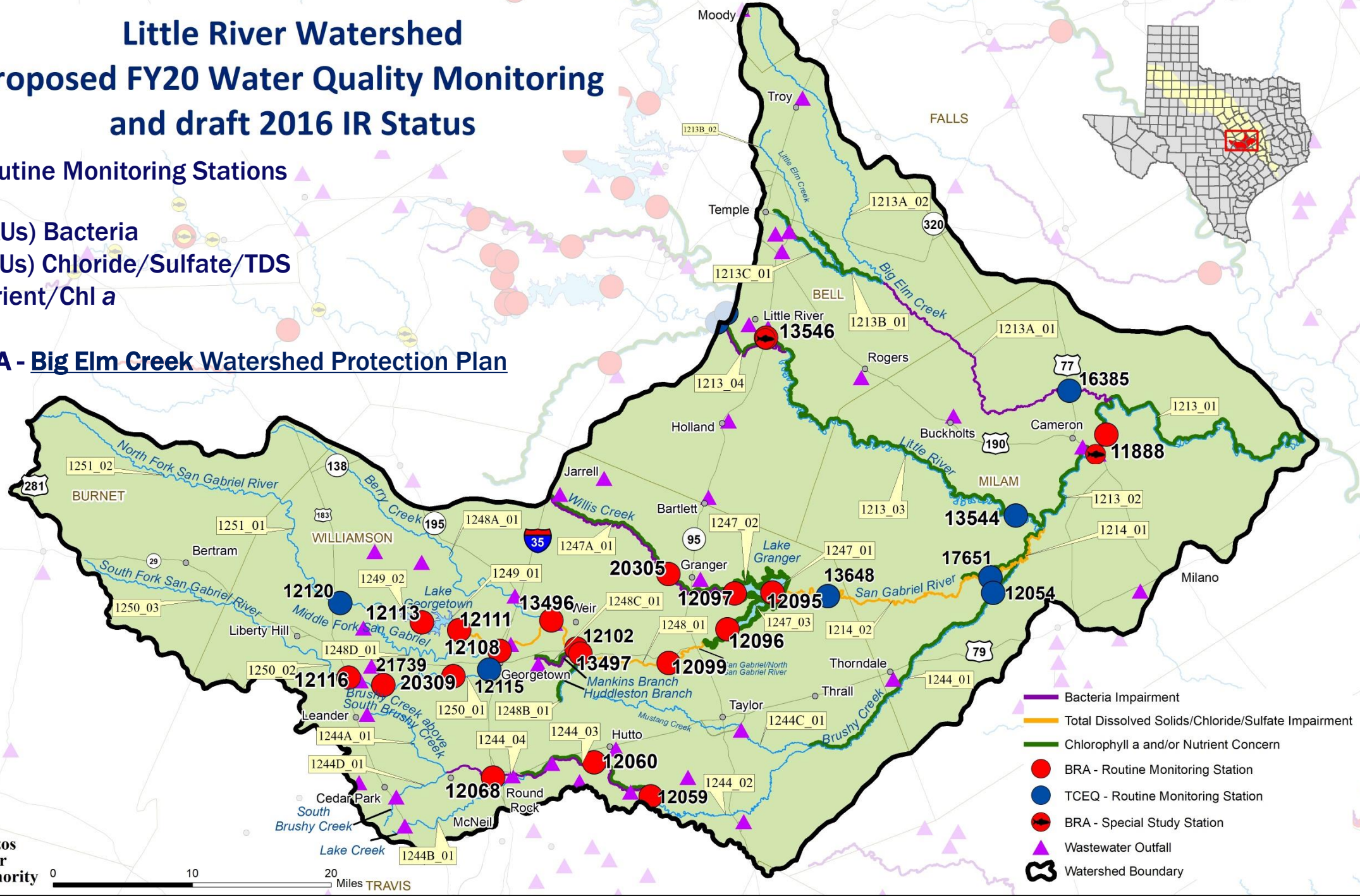
Little River Watershed
Proposed FY20 Water Quality Monitoring and draft 2016 IR Status

- 26 Routine Monitoring Stations
- 5 (6 AUs) Bacteria
  2 (3 AUs) Chloride/Sulfate/TDS
  9 Nutrient/Chl *a*
- **1213A - Big Elm Creek Watershed Protection Plan**



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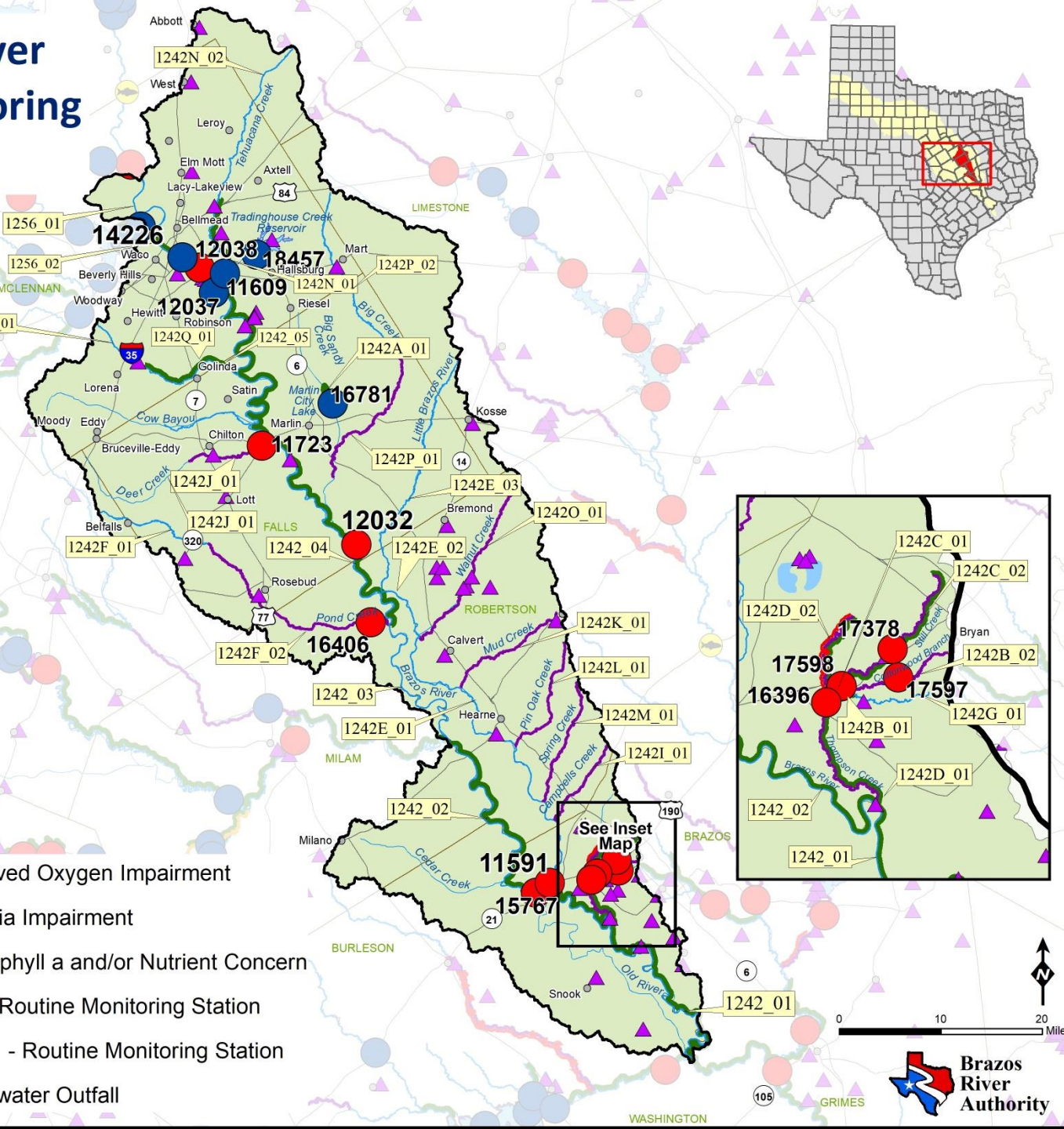
Central Watershed of the Brazos River Proposed FY20 Water Quality Monitoring and draft 2016 IR Status

- 15 Routine Monitoring Stations
- 11 (14 AUs) Bacteria
  1 DO
  7 (13 AUs) Nutrient/Chl *a*
- 7 waterbodies will need additional data collected to determine removal from the 303d list
- **Deer Creek** Characterization



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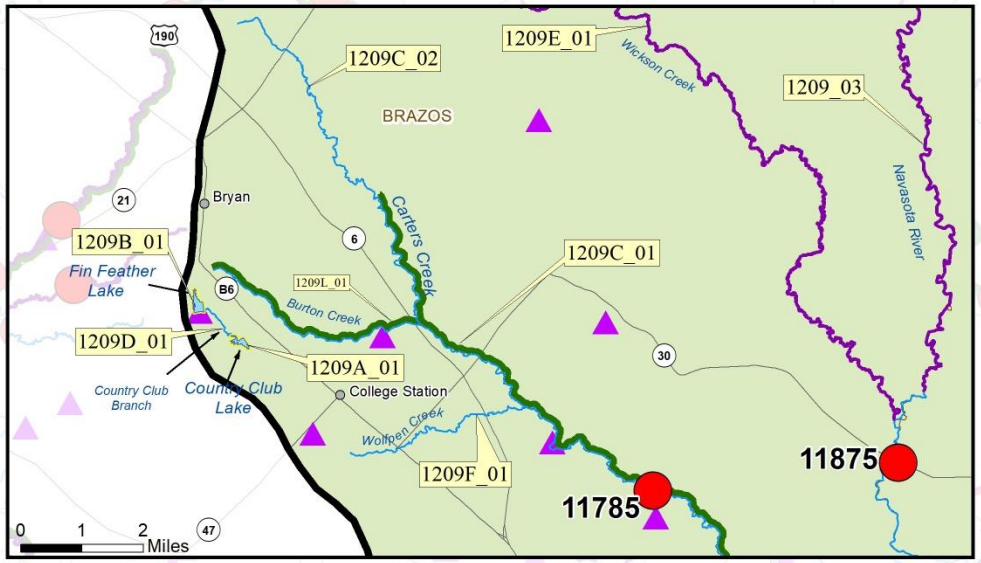
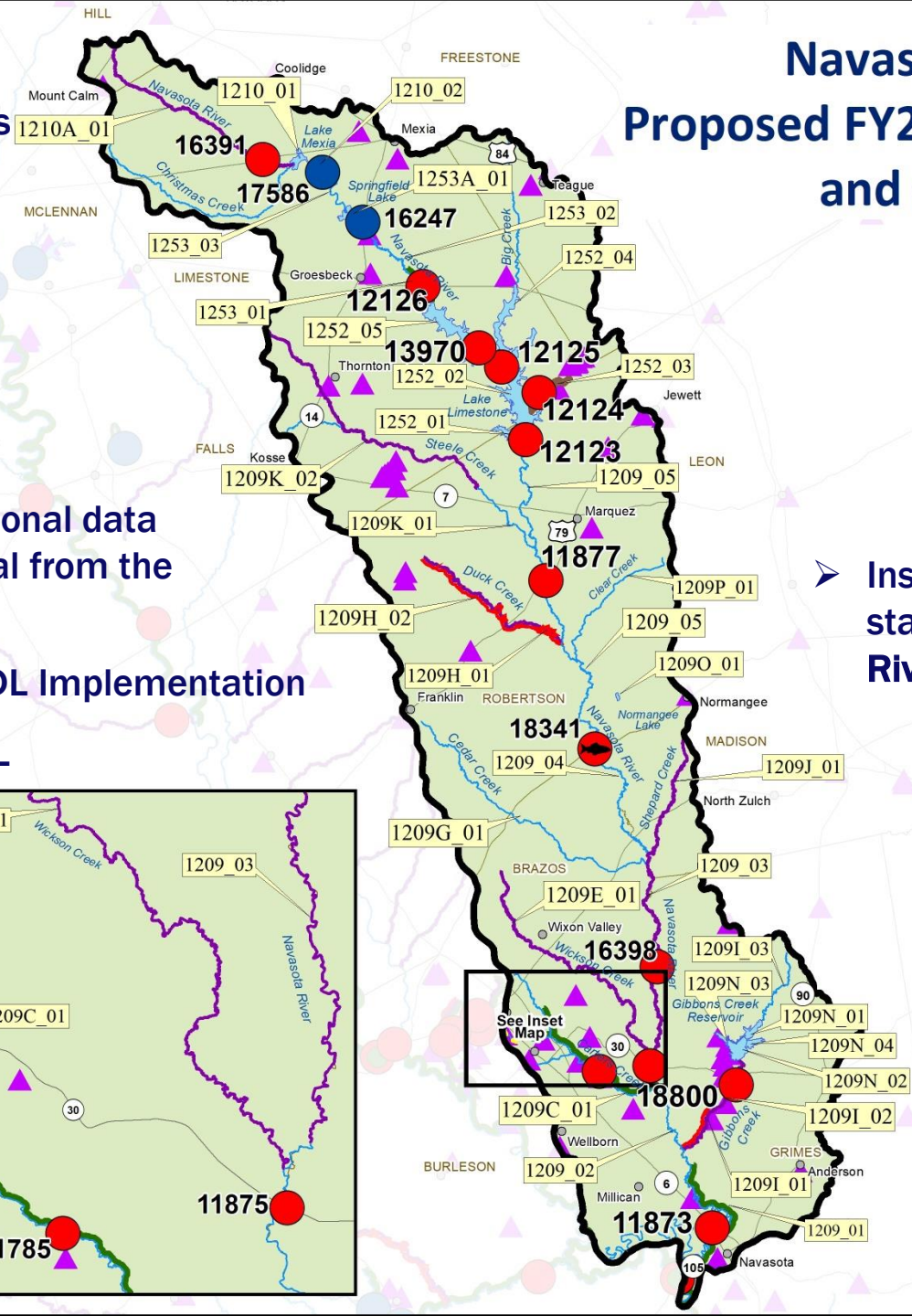
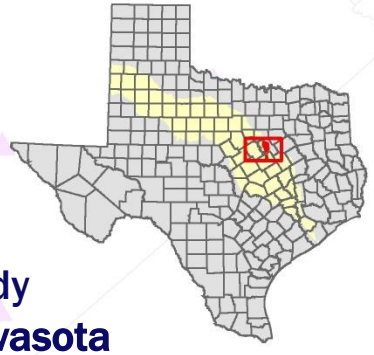
Navasota River Watershed
Proposed FY20 Water Quality Monitoring and draft 2016 IR Status

- 14 Routine Monitoring Stations
- 7 (8 AUs) Bacteria
  - 2 (1) DO
  - 1 High pH
  - 4 Nutrient/Chl *a*
- Potential 4 waterbodies removed from 303d list
- 2 waterbodies will need additional data collected to determine removal from the 303d list
- **Carter's** and **Burton Creek** TMDL Implementation
- **Navasota River** WPP and TMDL







- Instream Flow Study station: **18341 Navasota River at OSR NE of Bryan**

- Bacteria Impairment
- Dissolved Oxygen Impairment
- pH Impairment
- Chlorophyll a and/or Nutrient Concern
- BRA - Routine Monitoring Station
- TCEQ - Routine Monitoring Station
- BRA - Instream Flow Study Station
- Wastewater Outfall
- Watershed Boundary

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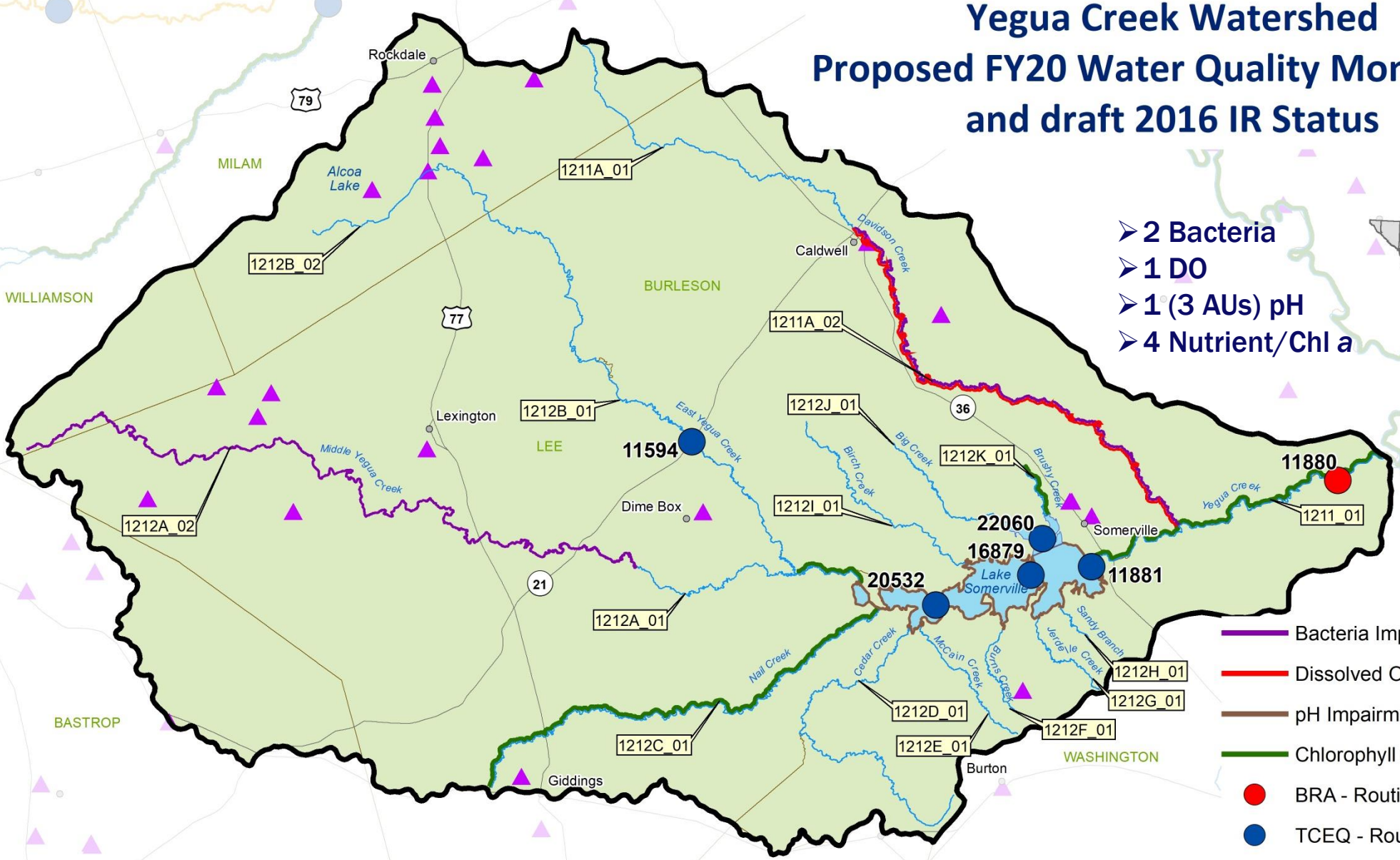
Yegua Creek Watershed
Proposed FY20 Water Quality Monitoring and draft 2016 IR Status

- 2 Bacteria
- 1 DO
- 1 (3 AUs) pH
- 4 Nutrient/Chl *a*



- Bacteria Impairment
- Dissolved Oxygen Impairment
- pH Impairment
- Chlorophyll a and/or Nutrient Concern
- BRA - Routine Monitoring Station
- TCEQ - Routine Monitoring Station
- Wastewater Outfall
- Watershed Boundary

0 5 10 Miles

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- 6 Routine Monitoring Stations
- Middle Yegua and Davidson Creek Characterization

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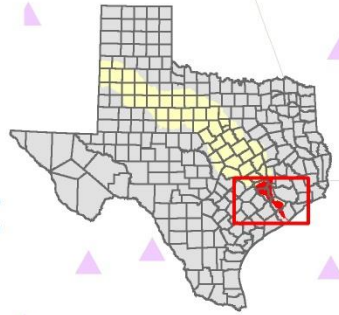
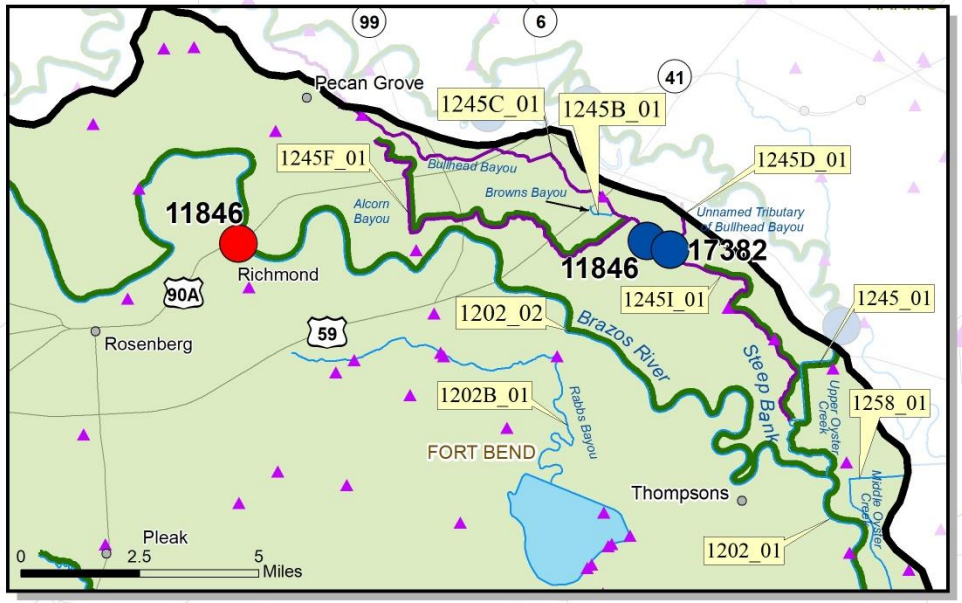
Lower Watershed of the Brazos River Proposed FY20 Water Quality Monitoring and draft 2016 IR Status



- 11 Routine Monitoring Stations
- 7 Bacteria
  6 Nutrient/Chl *a*
- Potential 1 waterbody removed from 303d list
- 3 waterbodies will need additional data collected to determine removal from the 303d list

- Mill Creek WPP
- Instream Flow Study stations:
  21620 - Brazos River upstream of FM 1462 W of Rosharon



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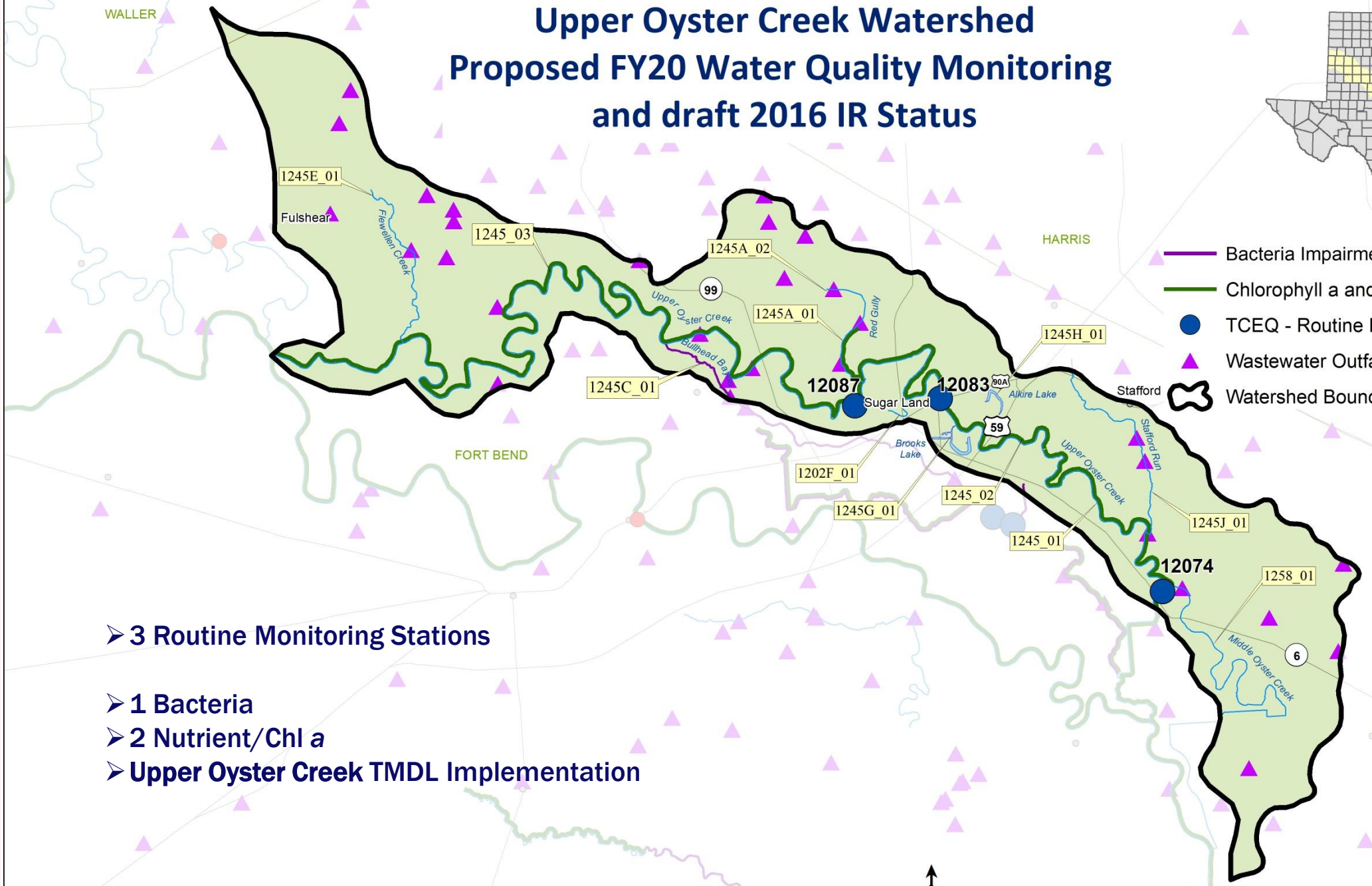
Upper Oyster Creek Watershed
Proposed FY20 Water Quality Monitoring and draft 2016 IR Status



- 3 Routine Monitoring Stations

- 1 Bacteria
- 2 Nutrient/Chl *a*
- **Upper Oyster Creek** TMDL Implementation

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