

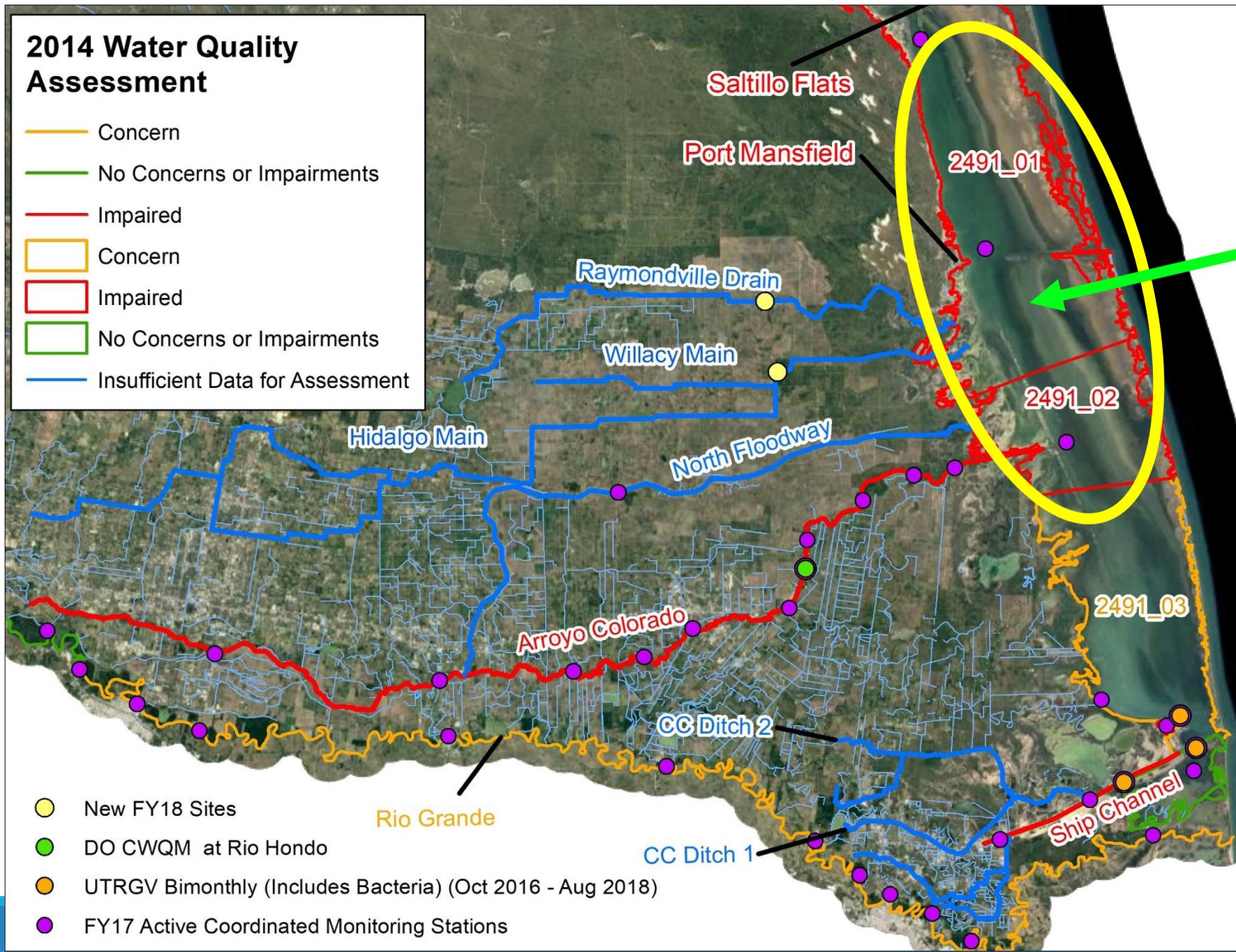
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# Update on Hidalgo County Northern & Central Watershed Protection Plan Project funded by the TCEQ NPS Clean Water Act Chapter 319 Program

Ahmed Mahmoud, Ph.D.  
Civil Engineering Department  
University of Texas Rio Grande Valley

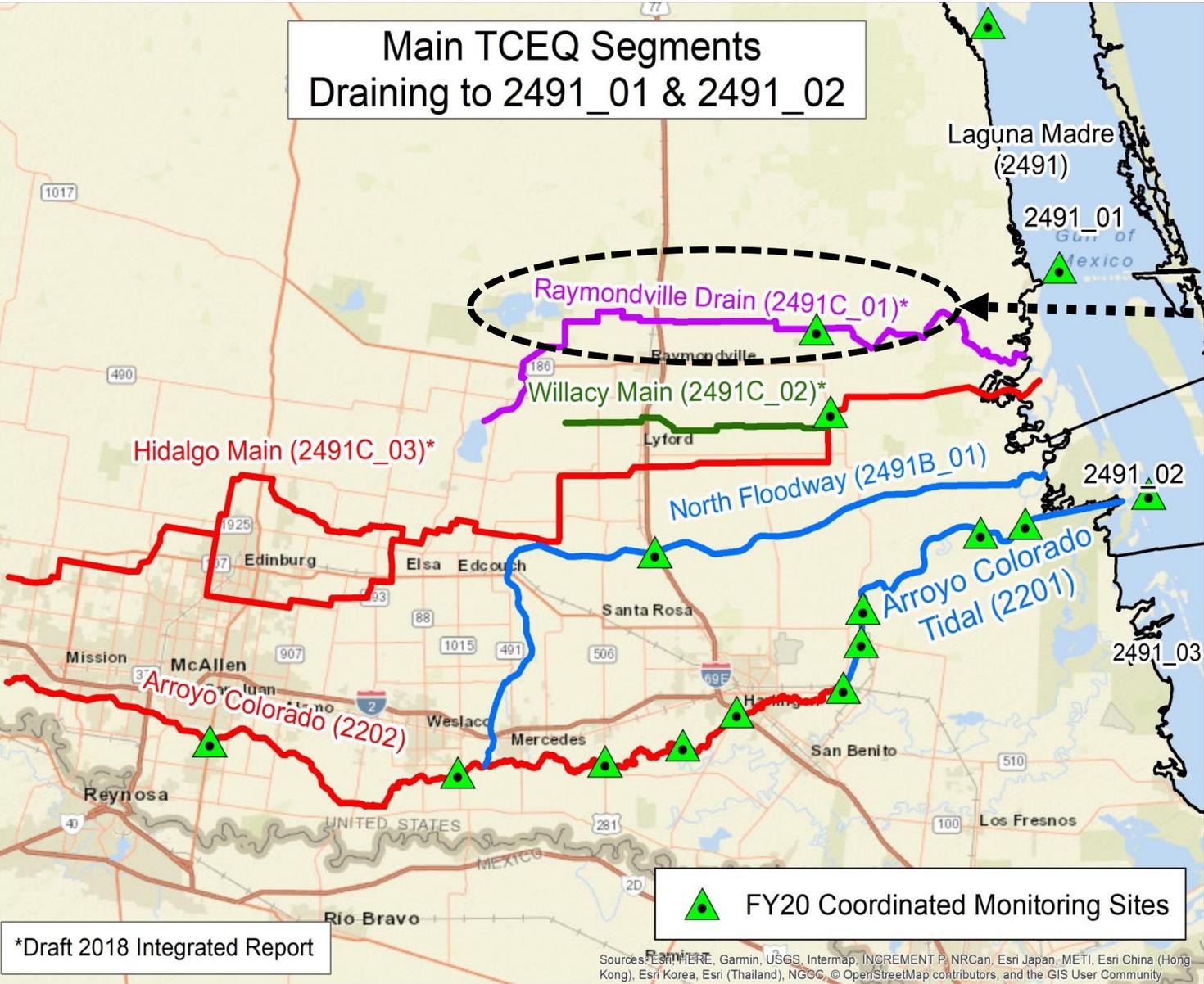
# 2014 Water Quality Assessment

- Concern
- No Concerns or Impairments
- Impaired
- Concern
- Impaired
- No Concerns or Impairments
- Insufficient Data for Assessment



Laguna Madre is impaired for low DO and bacteria

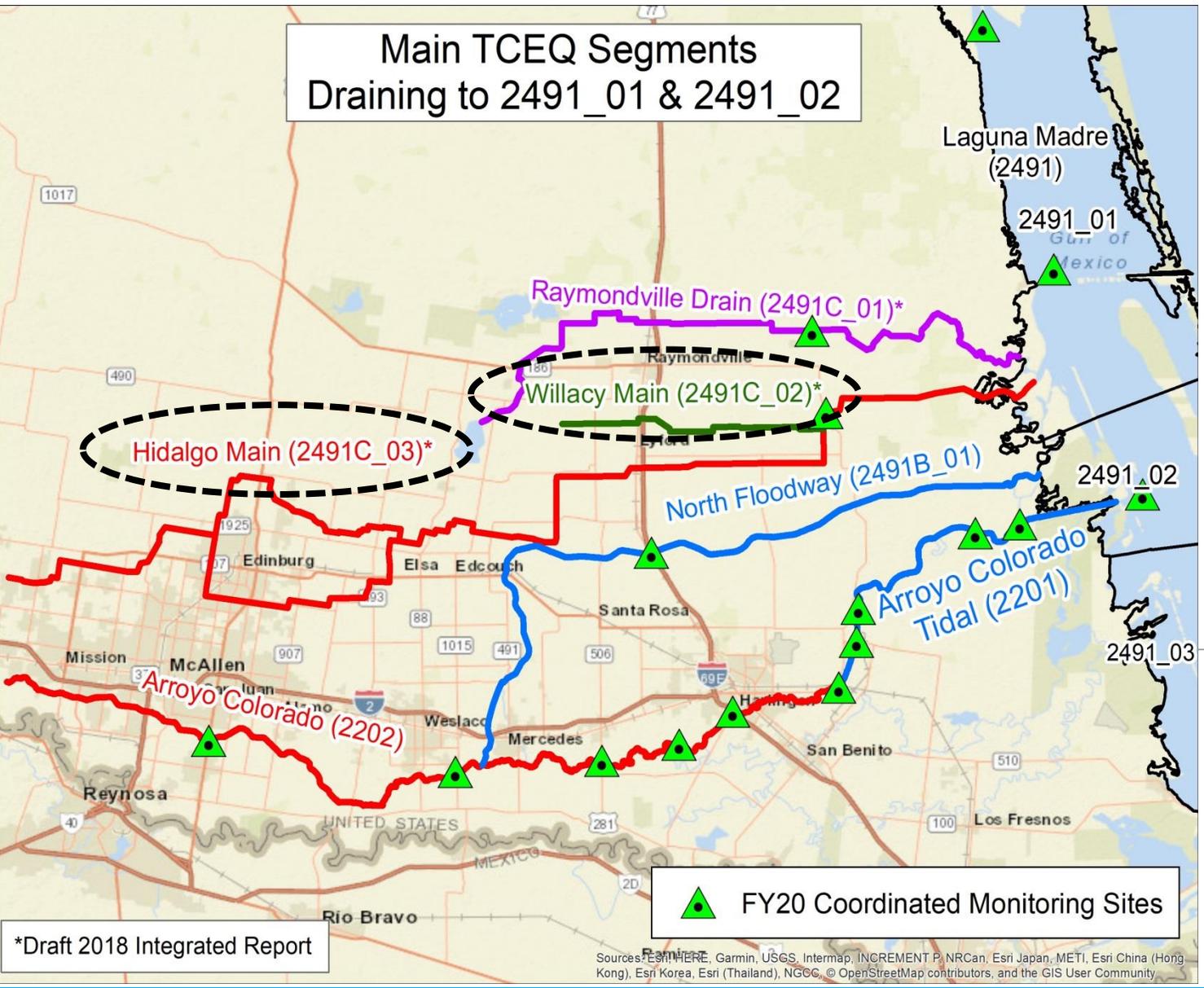
- New FY18 Sites
- DO CWQM at Rio Hondo
- UTRGV Bimonthly (Includes Bacteria) (Oct 2016 - Aug 2018)
- FY17 Active Coordinated Monitoring Stations



\*Draft 2018 Integrated Report

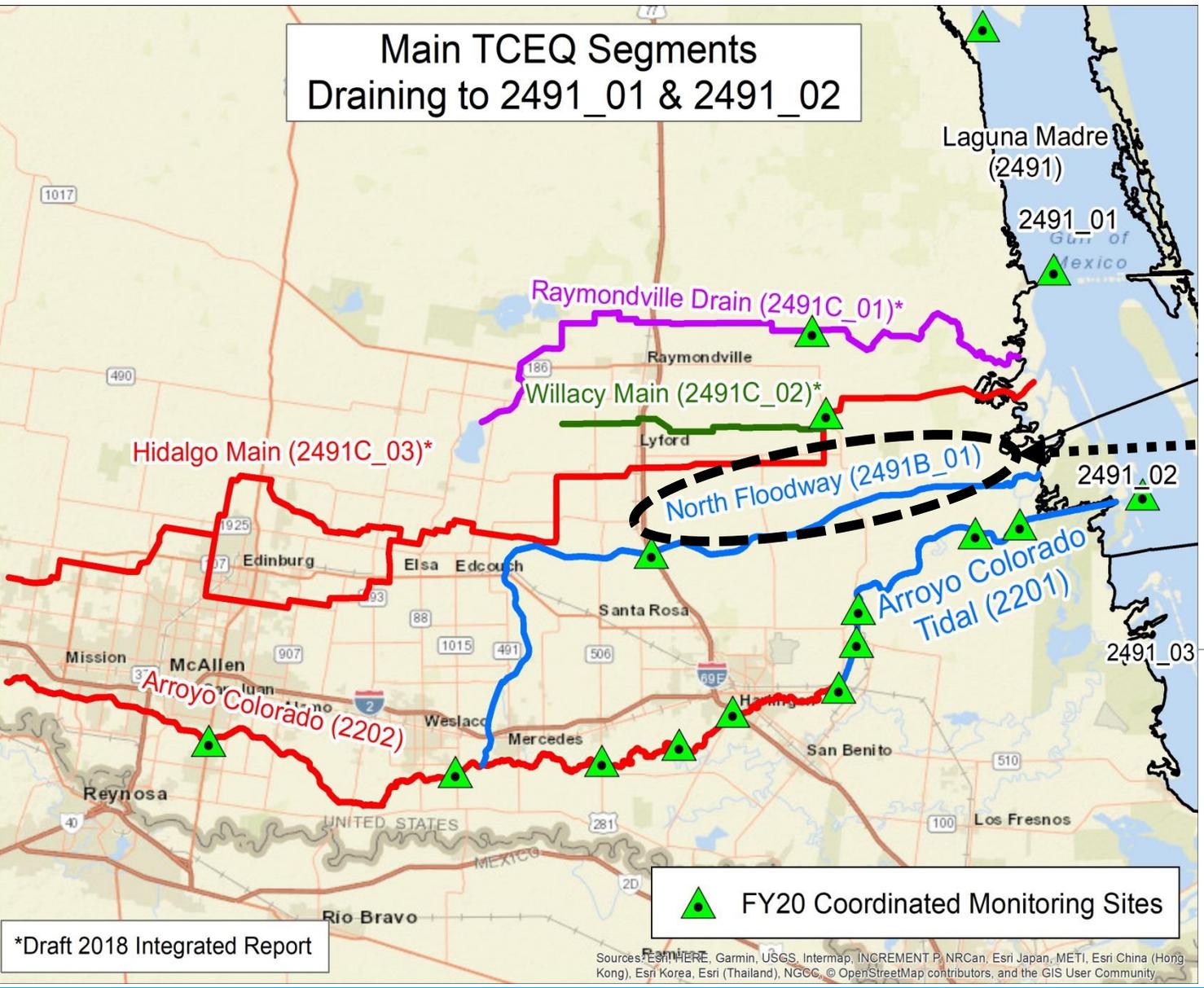
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

**Raymondville Drain:**  
 Collects **stormwater runoff** and **return flows** from subwatershed with predominant **agriculture activity**



**Hidalgo/Willacy County Floodway**

- Carries urban stormwater runoff from central and northern Hidalgo County, and
- Agricultural runoff from northeast Hidalgo County and Willacy County

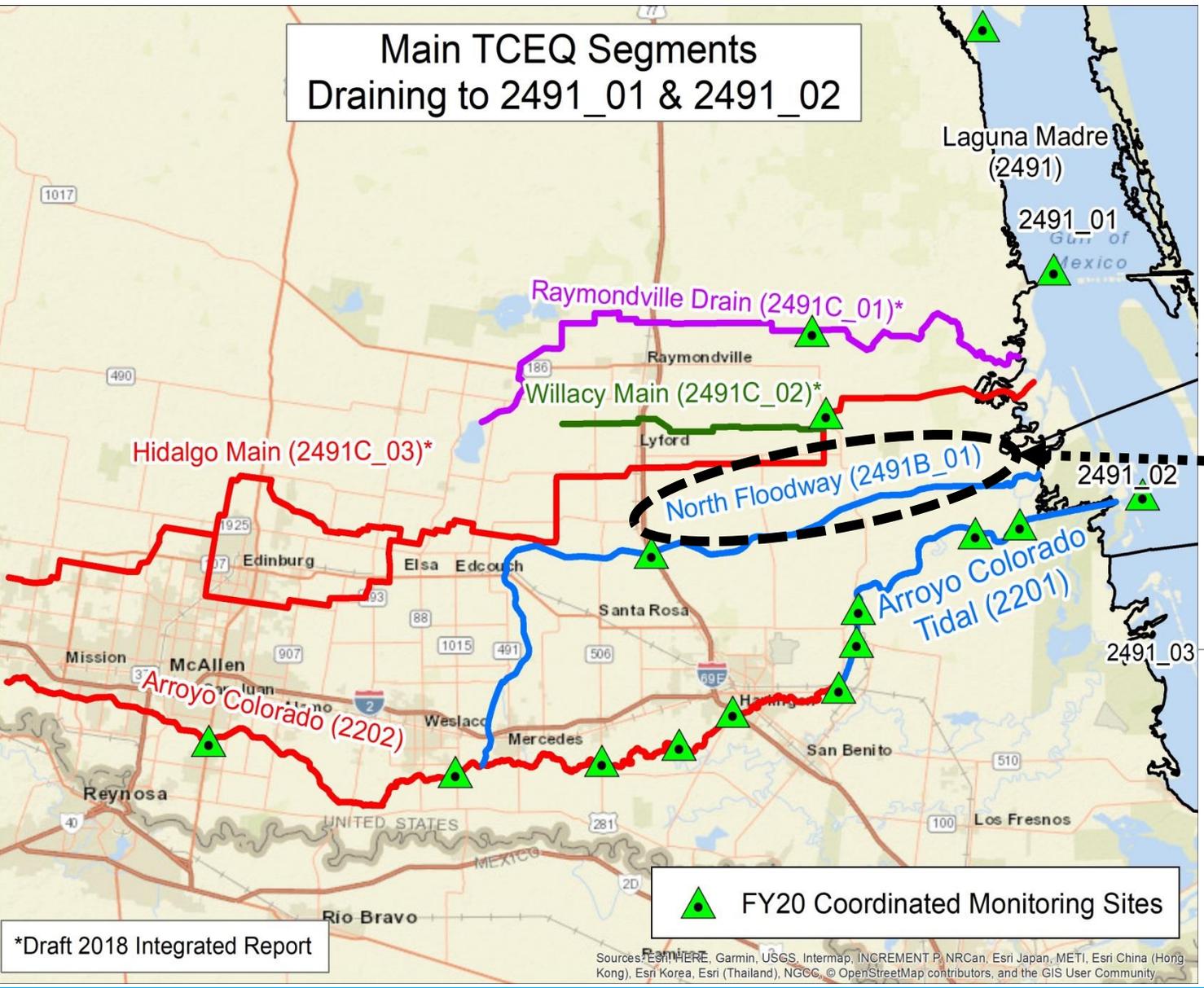


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## USIBWC North Floodway

- Built as a system of floodways in the 1930s
- From **Penitas, Texas** to the Gulf of Mexico
- In 1967, **Hurricane Beulah** (27 inches/36 hours – 136 mile/hr), damages (\$234.6 million).
- From 1968 to 1977, \$29 million was invested in project improvements.



\*Draft 2018 Integrated Report

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

**USIBWC North Floodway**

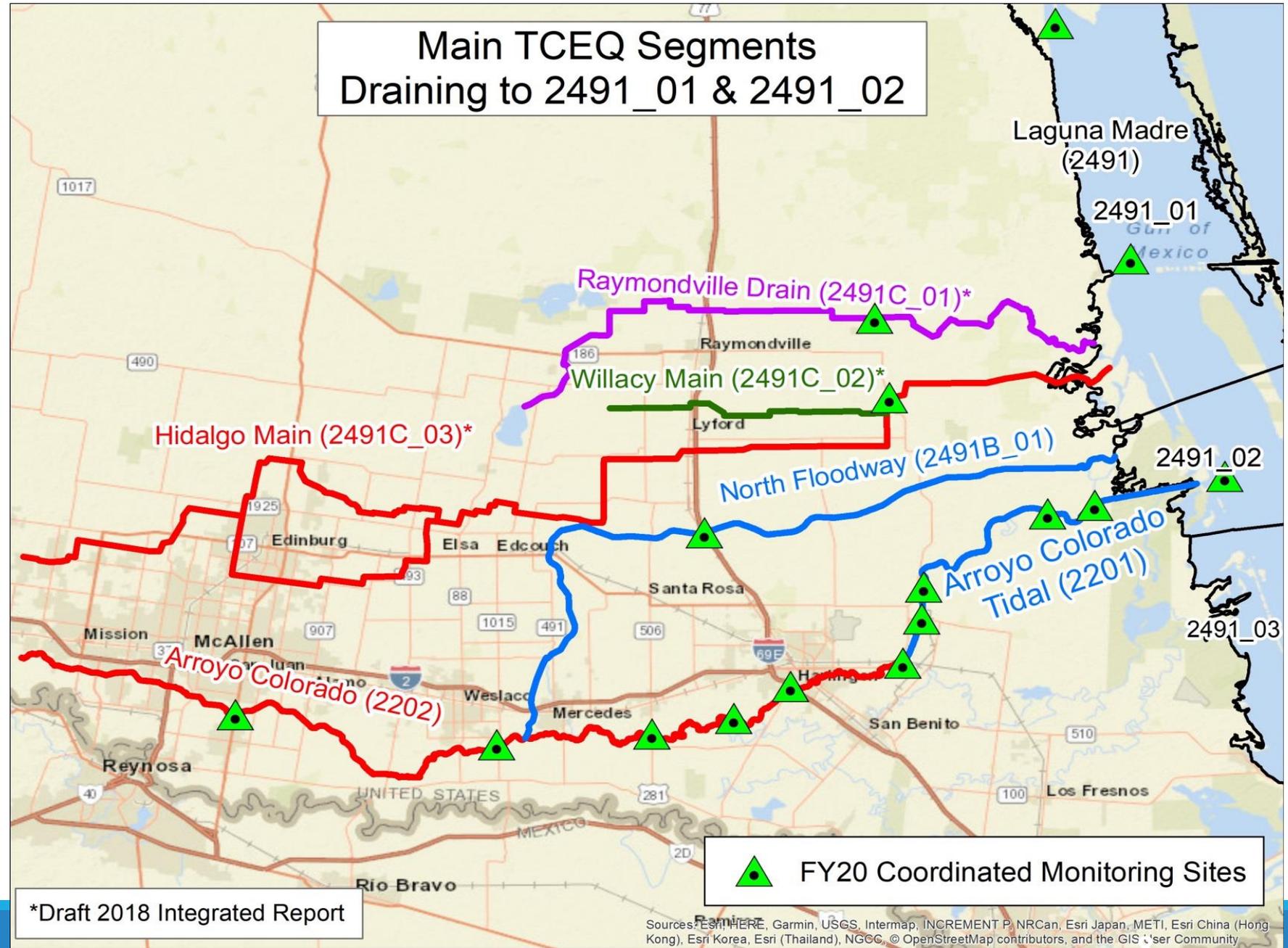
- Constantly drains **WWTP** effluent and
- During large storm events, collect **excess runoff** from urbanized areas of **Hidalgo County** and **agriculture land** in Cameron and Willacy County.

# Background

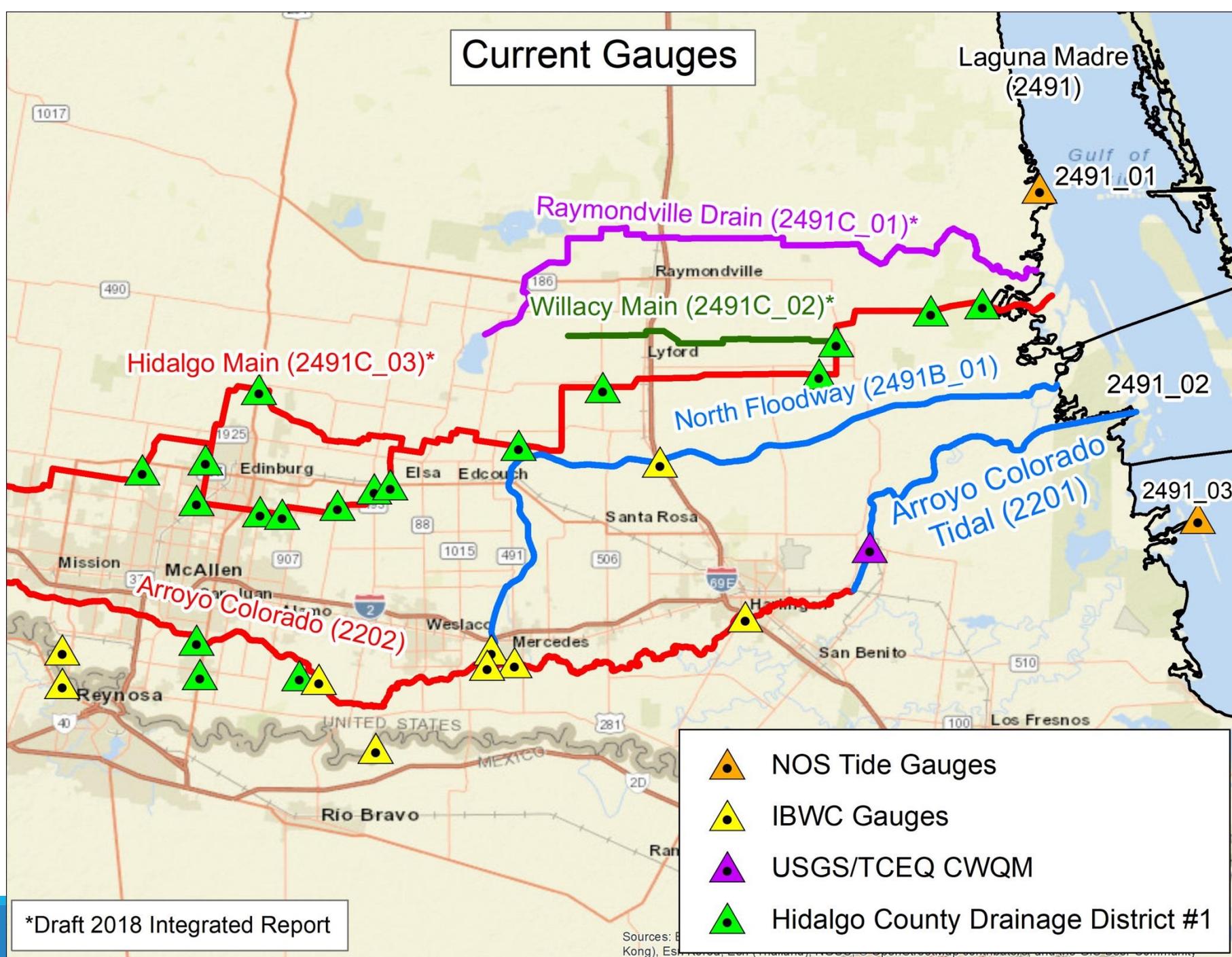
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- The Raymondville Drain and the Hidalgo/Willacy Main, the IBWC pilot channel (IBWC North Floodway) flow into the **Lower Laguna Madre** which is **impaired** for low **DO** and **bacteria**.
- The **three floodways** collect **stormwater runoff** and **agriculture runoff activity** (Non-point source Pollution).
- There is a **lack of water quality data** collection within the target region and limited data has been collected

# Water Quality Monitoring station



# Flow Monitoring station



# Project Description

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- The major sub-watersheds must be **characterized** to identify potential **causes** and **sources** of impairments.
- This project will identify **existing data** and identify **data gaps** for characterization as well as identify a path forward by selecting an analytical method for **estimating pollutant loads**



# EPA's 9-Elements

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**A- Identify **causes** and **sources** of pollution**

**B - Estimate **pollutant loading** into the watershed and the **expected load reductions****

**C - Describe **management measures** that will achieve load reductions and targeted critical areas**

**D - Estimate amounts of **technical and financial assistance** and the relevant authorities needed to implement the plan**

**E - Develop an **information/education** component**

F - Develop a project schedule

G - Describe the interim, measurable milestones

H - Identify indicators to measure progress

I - Develop a monitoring component

# Project Goals

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Goal	Measure of Success
Partial development of <b>Element A</b> and initiation of <b>Element E</b> of EPA's Nine Elements for WBPs found in the Handbook for Developing Watershed Plans to Restore and Protect our Waters.	Completion of <b>Watershed Characterization</b> – Data Evaluation Report and approval from TCEQ PM.
<b>Engage stakeholders</b> to provide input for the development of a <b>Strategic Plan</b> moving forward based on information presented from the <b>Watershed Characterization</b> .	Formation of <b>Stakeholders workgroups</b> .  List of next steps for watershed-based planning in the Partnership Coordination Report.

# Task 1: Project Administration

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- Quarterly Progress Report (**QPRs**)
- Coordination meeting with **EPA**
- **Annual Report** article and pictures
- Contract and Annual **Budget updates**

# Task 2: Quality Assurance

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- QAPP Planning Meeting notes
- Draft and Final QAPP
- QAPP Annual Reviews and Revisions
- Draft and Final QAPP Amendments

# Task 3: Watershed Characterization – Data Evaluation and Analysis

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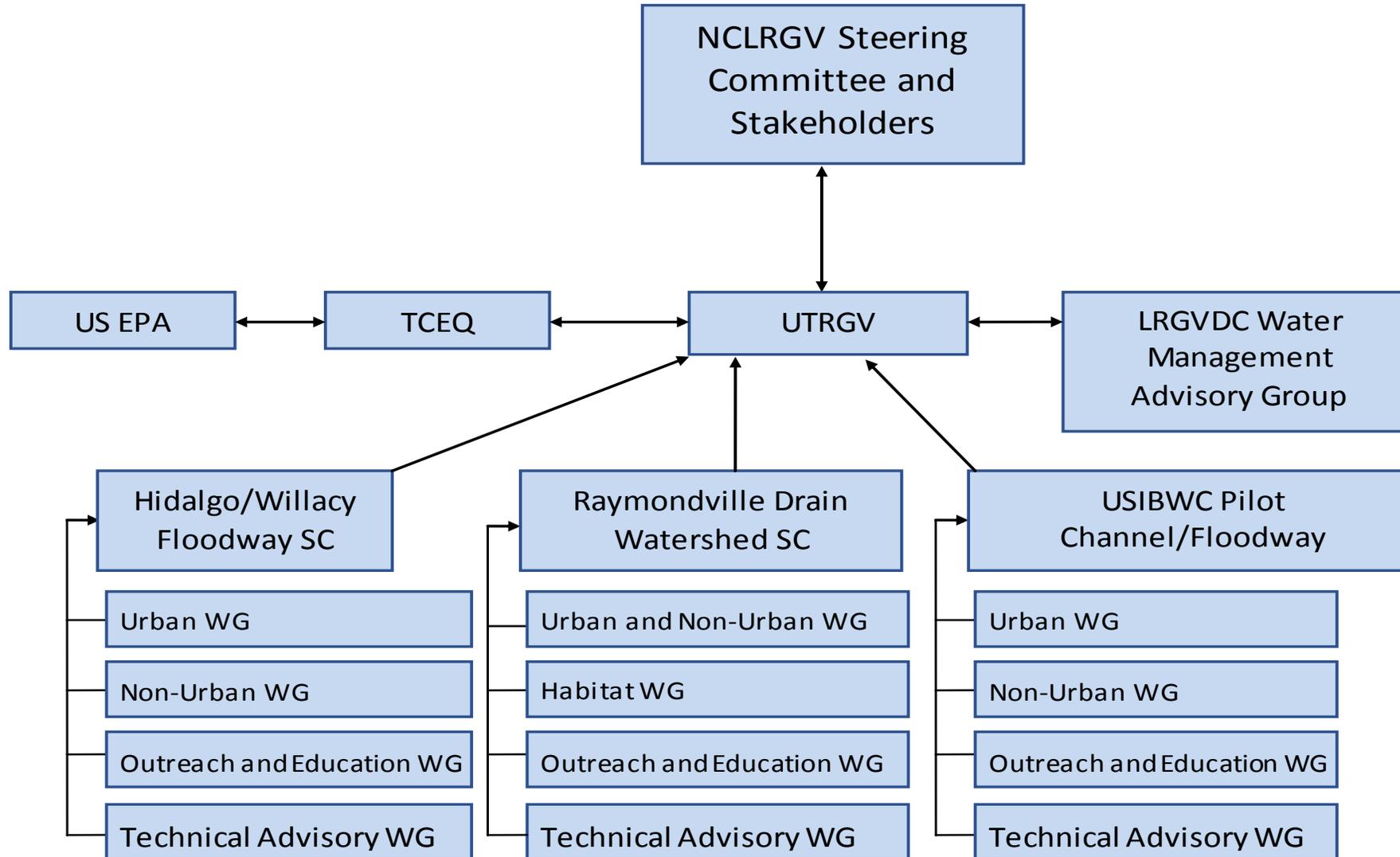
- Summary of **existing data** and information
- **Cyberinfrastructure** establishment and **database** development
- Interim **Existing Data** and **Information Analysis Report**
- Draft and Final Watershed Characterization and Next Steps Report

# Task 4: Partnership Coordination

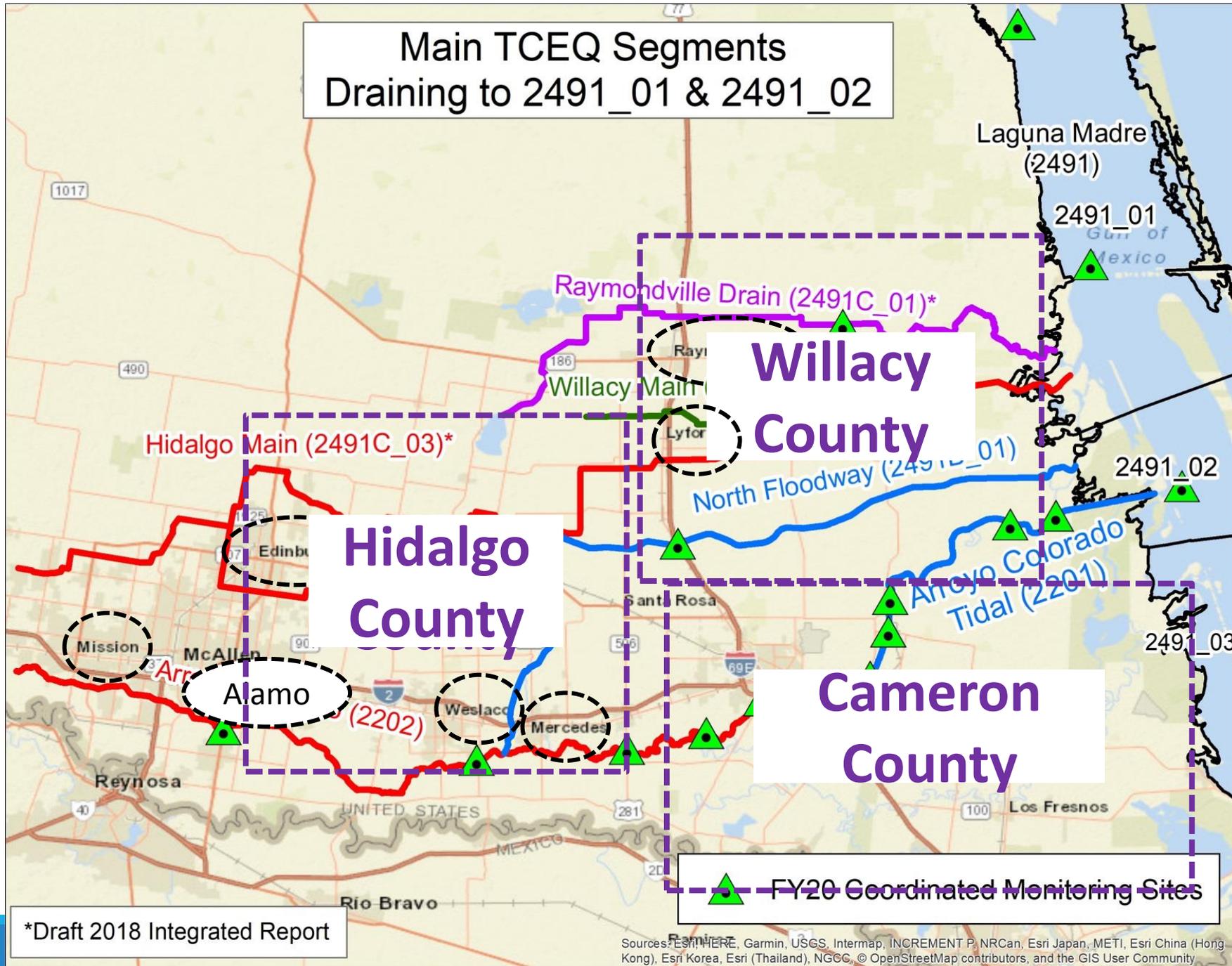
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- Develop **PPP** (Public Participation Plan)
- Documentation of key **stakeholder meetings**, including agendas, presentations, and sign in sheets, minimum of three per quarter
- Draft and Final Partnership Coordination Report

# Public Participation Plan



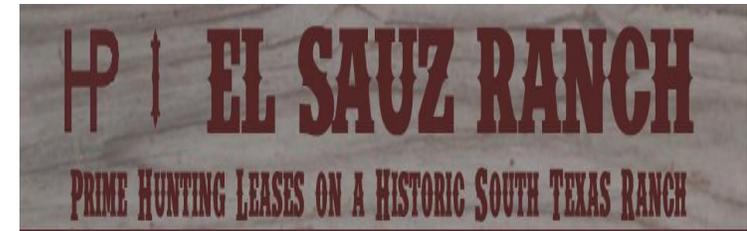
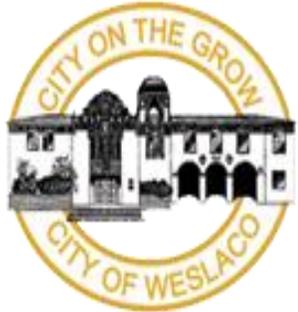
Main TCEQ Segments  
Draining to 2491\_01 & 2491\_02



\*Draft 2018 Integrated Report

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

# Public Participation Plan

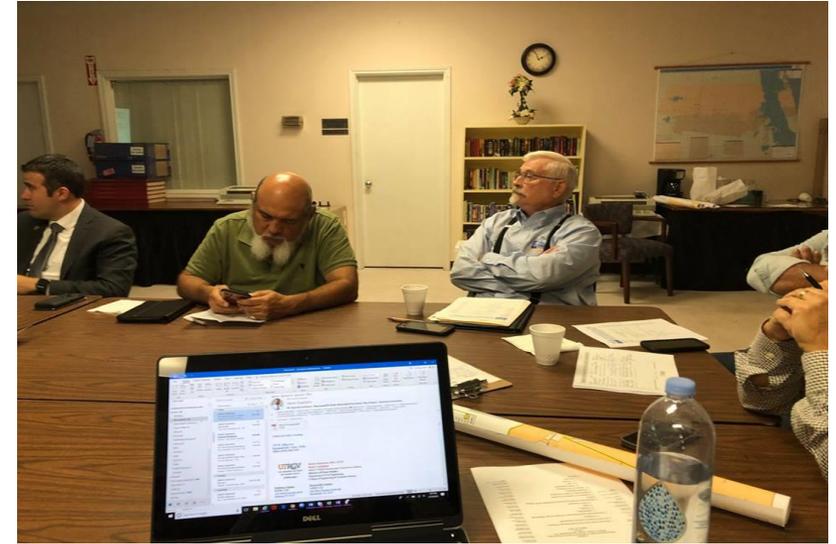


# Steering Committee Meetings

02/26/2019 Steering Committee  
(USIBWC Floodway)

03/14/2019 Steering Committee  
(Raymondville Drain)

03/25/2019 Steering Committee  
(Hidalgo/Willacy County  
Floodway)



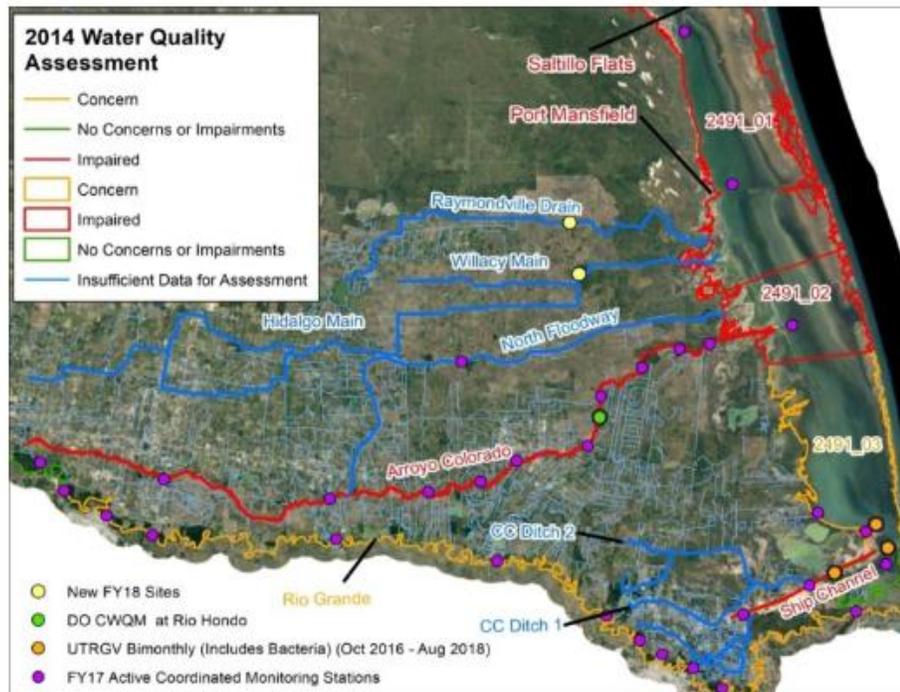
# Task 5: Final Report

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- Draft **Final Report**
- Address TCEQ/EPA comments
- Final Report

# Project Website

## CHARACTERIZATION OF NORTHERN AND CENTRAL RIO GRANDE VALLEY WATERSHEDS



### Background Information

The Raymondville Drain and the Hidalgo Main flow into the Lower Laguna Madre Bay assessment unit (AU) 2491\_01 which is impaired for low dissolved oxygen (DO). The North Floodway flows into the Lower Laguna Madre AU 2491\_02 which is impaired for low DO and bacteria.

The project area is comprised of subwatersheds associated with the Raymondville Drain, the Hidalgo Floodway, and the IBWC pilot channel (IBWC North Floodway). These major waterways contribute freshwater and stormwater to the Laguna Madre. This project will begin the assessment of these subwatersheds. It is anticipated that these three distinct subwatersheds will need to be assessed, quantified, and identified as separate major watersheds in the Lower Rio Grande Valley.

<https://rgvstormwater.org/tceq-319-characterization-of-northern-and-central-rio-grande-valley-watersheds/>

# Project Website

## Steering Committee and Workgroup Meetings

Date	Type of Meeting	Meeting Agenda	Notes	Presentation
02/26/2019	Steering Committee (USIBWC Floodway)	IBWC Feb 26 Agenda	USIBWC-SC- Minutes- 022619	USIBWC SC meeting 02-26- 2019
03/14/2019	Steering Committee (Raymondville Drain)	Rayondville Macrh 14 Agenda	RV-SC- Minutes- 031419	Raymondville SC meeting 03-14- 2019
03/25/2019	Steering Committee (Hidalgo/Willacy County Floodway)	Hidalgo Macrh 25 Agenda	HW-SC- Minutes- 032619	Hidalgo SC meeting 03-25- 2019

<https://rgvstormwater.org/tceq-319-characterization-of-northern-and-central-rio-grande-valley-watersheds/>

1- Raymondville Drain Watershed Protection Plan - Includes region above the Hidalgo/Willacy Floodway northern watershed boundary to the northern LRGV County limits, and from the **Starr County border** to the **Laguna Madre**.

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2- **Hidalgo/Willacy Floodway Watershed Protection Plan** - Includes region above the Arroyo Colorado to the south watershed boundary of the Raymondville Drain, and from the **Starr County border** to the **Laguna Madre**

3- **USIBWC Pilot Channel/Floodway Watershed Protection Plan** - From the Rio Grande River region, including **regions not included** in the Arroyo watershed, along the Rio Grande River continuing **north** and then **east** to the **Laguna Madre**.

# Questions?

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Texas Commission on Environmental Quality (TCEQ) Clean Water Act (CWA) Section 319(h)

Nonpoint Source (NPS) Grant Program through UTRGV

TCEQ Project Manager : Tim Cawthon

PI : Andy Ernest, Ph.D., P.E., BCEE, D. WRE

Co-PI: Javier Guerrero, M.S., E.I.T

Watershed Coordinator: Ahmed Mahmoud, Ph.D.