

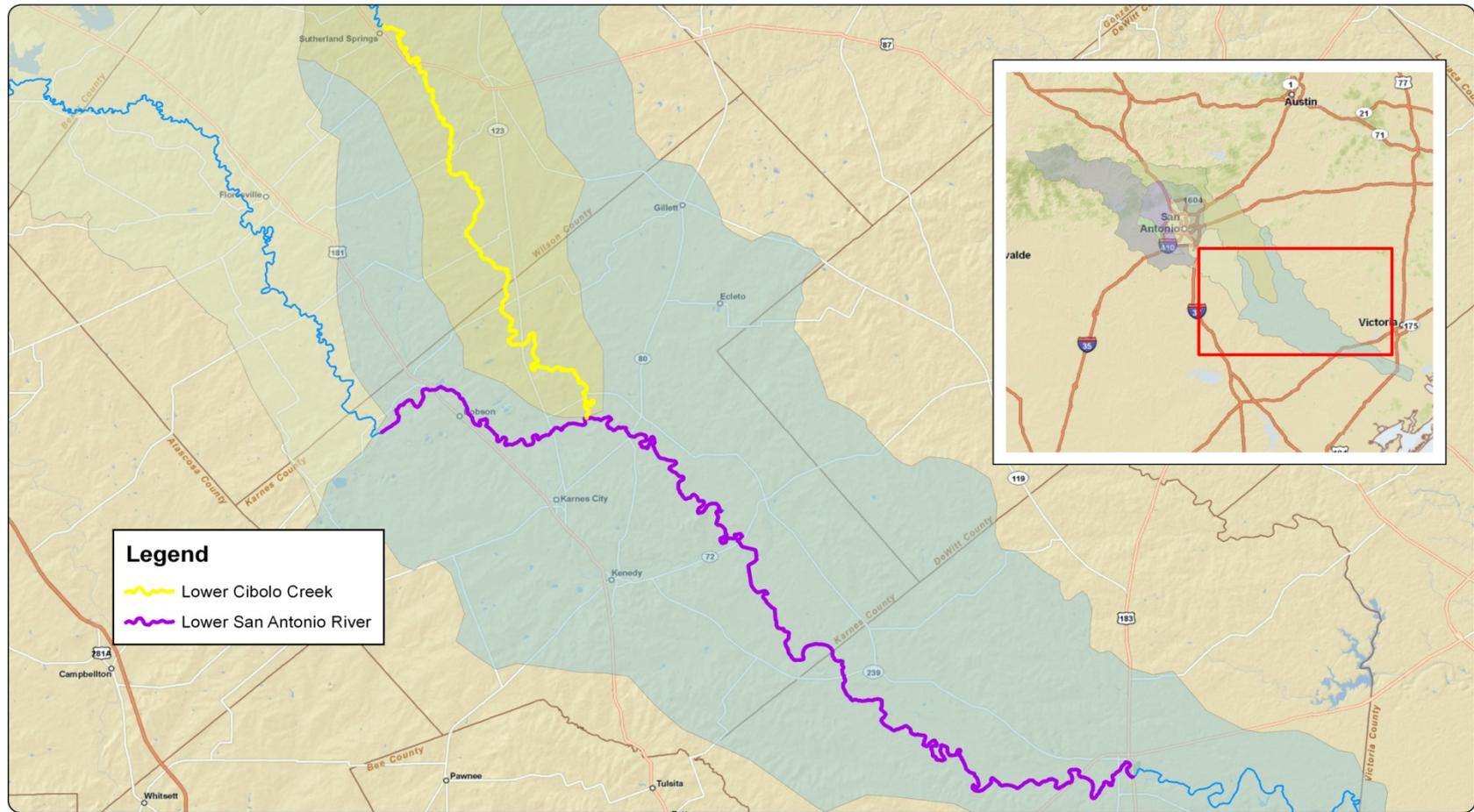
LOWER SAN ANTONIO RIVER
CIBOLO CREEK INTENSIVE
MONITORING

Purpose

To identify elevated sources of E. coli bacteria in the Lower San Antonio River and Cibolo Creek Watershed.

Map of Study Reach

INTENSIVE MONITORING



Legend

- Lower Cibolo Creek
- Lower San Antonio River



Disclaimer:
The GIS material included with this transmittal is made available as a public service. The maps and/or data are to be used for reference and/or informational purposes only and may not have been prepared or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. The data herein shall be used and relied upon only at the user's sole risk, and the user agrees to indemnify and hold harmless the San Antonio River Authority, its officials and employees from any liability arising out of the use of the data or information provided. If there are any questions about the appropriateness of this data, please email sarap@sanra.org.

File: \\sra\pfs\GIS\Info\MapServer\workspace\sa_creek_2011.mxd

Sampling Objectives

Collect the following parameters instream every 3 miles and from all tributaries, outfalls and seeps.

E. coli Bacteria

Estimated Flow

Temperature

Conductivity

Dissolved Oxygen

pH

GPS Coordinates

Photographs

Intensive Sampling Events

- October 2010
 - SAR at FM 791 to SAR at US 77A Goliad Texas (81.9 miles)
 - Cibolo Creek at CR 401 to SH 81 near Pana Maria Texas (28 miles)
- March 2011
 - SAR at Conquista Crossing to US 77A Goliad Texas (81.9 miles)
 - Cibolo Creek at CR 401 to SH 81 near Pana Maria Texas (28 miles)
- October 2011
 - Cibolo Creek at 539 to CR 401 (2.5 miles)

Texas Water Quality Standard for E. coli Bacteria

Lower San Antonio River and the Lower Cibolo
Creek.

126 cfu/100 ml

October 2010

- 38 - San Antonio River (0)
- 10 - San Antonio River Tributaries (5)
- 17 - Cibolo Creek (8)
 - 9 - Cibolo Creek Tributaries (4)
 - 2 - Springs / Seeps (0)
- 76 - Total

October 2010

San Antonio River Tributaries:

250	2500	440
240	1400	

Cibolo Creek:

200	130	140	140
160	130	130	160

Cibolo Creek Tributaries:

700	230
140	180



March 2011

- 41 - San Antonio River (1)
- 21 - San Antonio River at Cattle Access (4)
- 17 - San Antonio Tributaries (13)
 - 8 - San Antonio River Springs / Seeps (1)

- 18 - Cibolo Creek (7)
 - 8 - Cibolo Creek at Cattle Access (4)
- 11 - Cibolo Creek Tributaries (6)
 - 1 - Cibolo Creek Springs / Seeps (0)

- 125 - Total

March 2011

San Antonio River:

180

San Antonio River at Cattle Access:

130

170

130

1400

San Antonio Tributaries:

2200

130

8700

1200

160

500

260

690

1400

540

200

560

2600

San Antonio Springs / Seeps

3400

March 2011

Cibolo Creek:

150	490	370	140
160	130	170	

Cibolo Creek at Cattle Access:

390	130	240	180
-----	-----	-----	-----

Cibolo Creek Tributaries:

200	510	150	14000
150	2000		



October 2011

7- Cibolo Creek (2)

4 - Cibolo Creek at Cattle Access (0)

1 - Cibolo Creek Tributaries (0)

12 - Total

October 2011

Cibolo Creek:

130

230



Challenges

- Weather
- Log Jams
- Access
- Low Flow Conditions
- Snakes
- Boat Launching



Where Are We At Now

- Prioritize Problem Areas
- Sample Problem Areas
- Define Possible Sources of E. coli Bacteria

Questions ?