

Annual Update on Water Quality for the Rio Grande and the Clean Rivers Program



USIBWC CITIZENS' FORUM
AND UPPER RIO GRANDE BASIN
ADVISORY MEETING
OCTOBER 6, 2011

LESLIE GRIJALVA AND ELIZABETH VERDECCHIA
TEXAS CLEAN RIVERS PROGRAM
U.S. SECTION,
INTERNATIONAL BOUNDARY AND WATER COMMISSION



TX Clean Rivers Program History



- 1991 Texas Clean Rivers Act
- 1998 TCEQ-USIBWC partnership
- 2012 monitoring sites on Rio Grande:
 - CRP – 70 sites
 - TCEQ – 37 sites

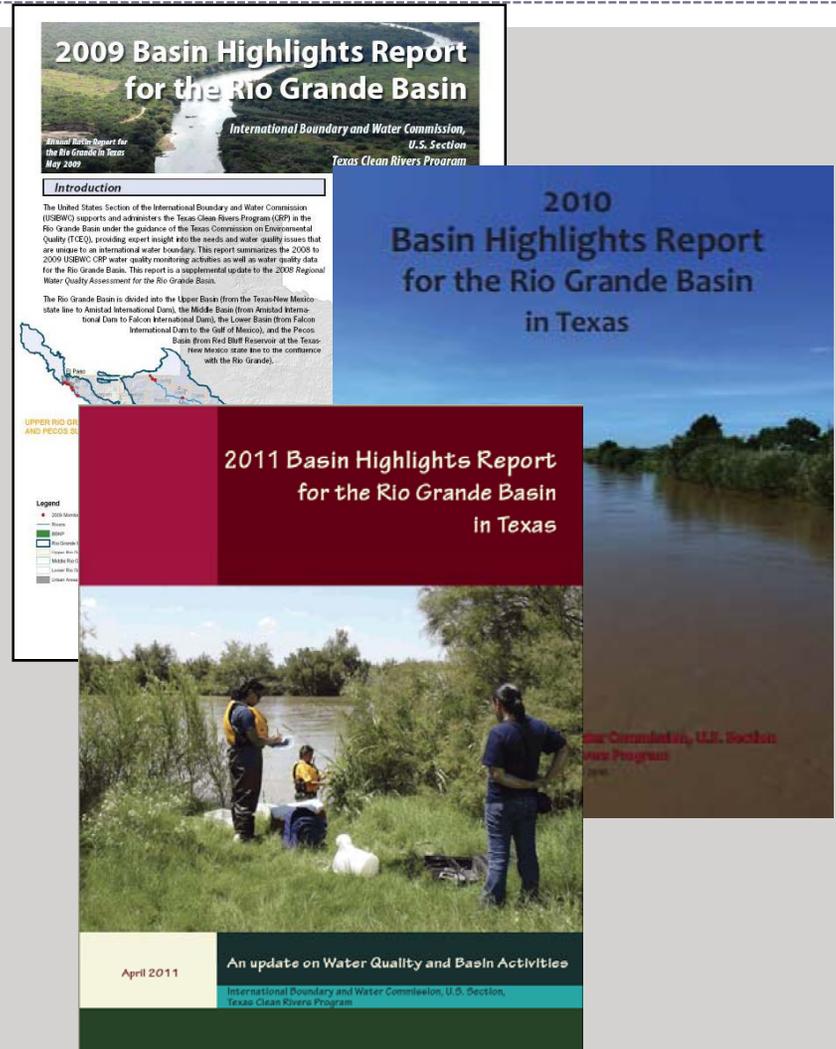
What is the Clean Rivers Program?



- A state fee-funded program
- A group of federal, state and local organizations that have an interest in the health of our state's streams, rivers and lakes.
- The USIBWC Clean Rivers Program collects water quality data from the Rio Grande and Pecos Rivers.
- We then use that data to:
 - identify and evaluate water quality issues
 - establish priorities for corrective actions
 - work to implement those actions.

CRP Activities

- Water Quality Monitoring
 - Routine monitoring
 - Special studies
- Water Quality Assessment
- Publications
 - Annual Basin Highlight Report
 - 5-year Basin Summary Report



CRP Activities



- Outreach
- Environmental Education
- Public Participation



CRP Activities



CRP Activities





Dia del Rio



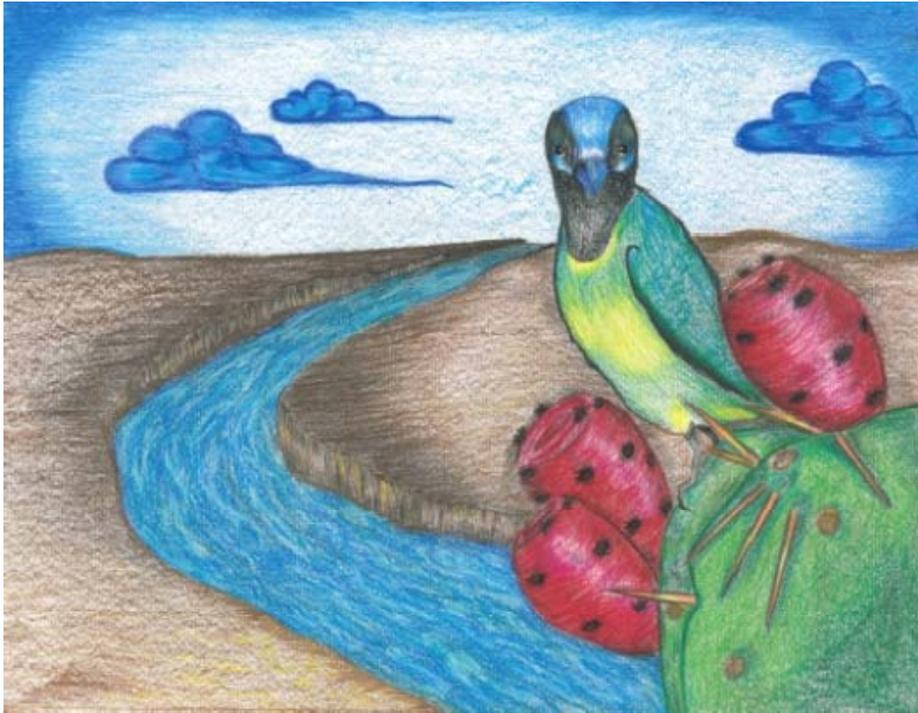
- Activities throughout the basin from Colorado to Gulf.
- About 80 schools from CO, NM, TX and Mexico will be participating this year.
- Schools will be collecting samples and water quality info on Oct 12th
 - Franklin HS will be participating in El Paso
- Local activities are posted at www.diadelrio.org

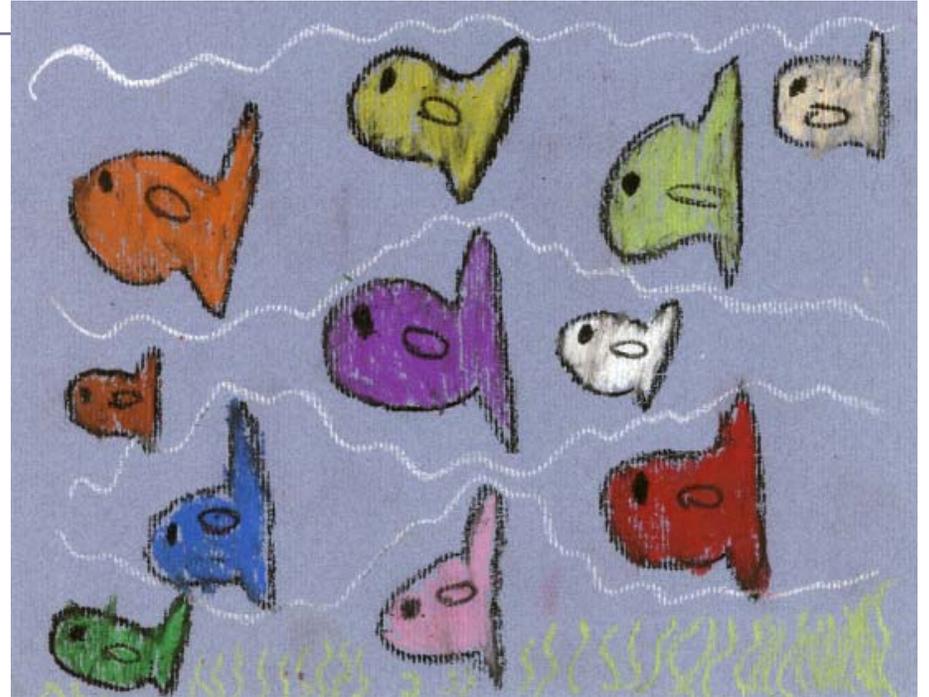


Student Drawing Contest



- **Asked teachers from schools in the Rio Grande Basin to submit their student's artwork.**
 - The importance of water
 - How the Rio Grande was important to them
 - How they enjoy the river
- **Received over 350 drawings from all over the basin!**
- **Three categories (K-2, 3-6, 7-12)**
- **Winners are printed in the 2012 calendar and posted online**





EPCC Service Learning Program



- EPCC grant for STEM students through Service Learning
- IBWC CRP is a collaborating entity (with Zoo & Keystone)
- Students can gain hands-on experiences with CRP in:
 - Water quality monitoring
 - River cleanups
 - Outreach activities
 - Scientific literature reviews, etc
 - Creation of materials – videos, brochures, websites, etc
- Grant includes training of teachers to incorporate SL in classroom.

EPCC Service Learning Program Activities



- Adopted a river section through the Adopt-a-River Program.
- Have had 2 river clean-ups
- Graphing of data
- Current projects:
 - Nutrient data analysis
 - Outreach with CRP



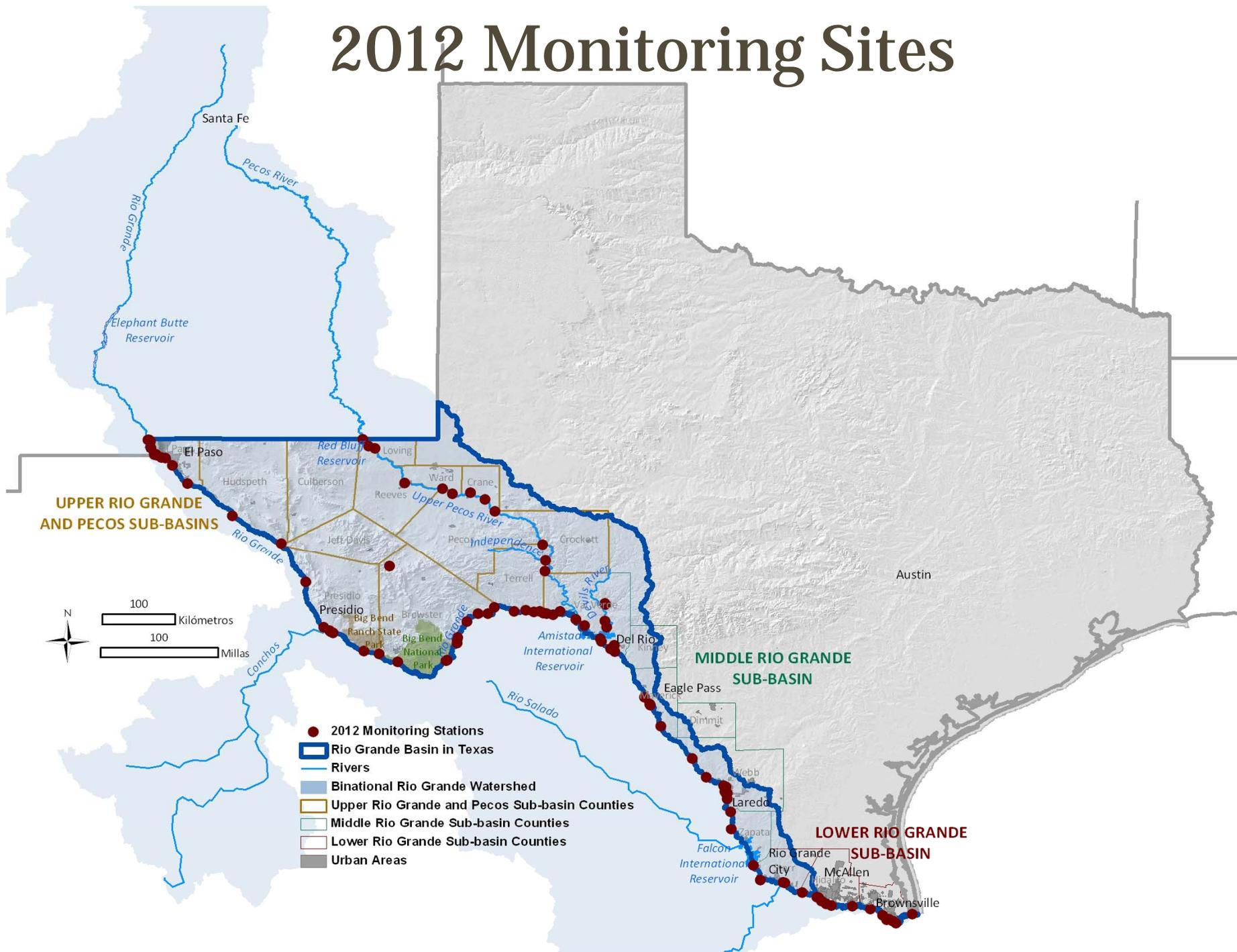
Are you interested in monitoring?



- Texas Stream Team - Volunteer WQ Monitoring Program
- Great for teachers
- <http://txstreamteam.rivers.txstate.edu/>
- Contact Leslie Grijalva



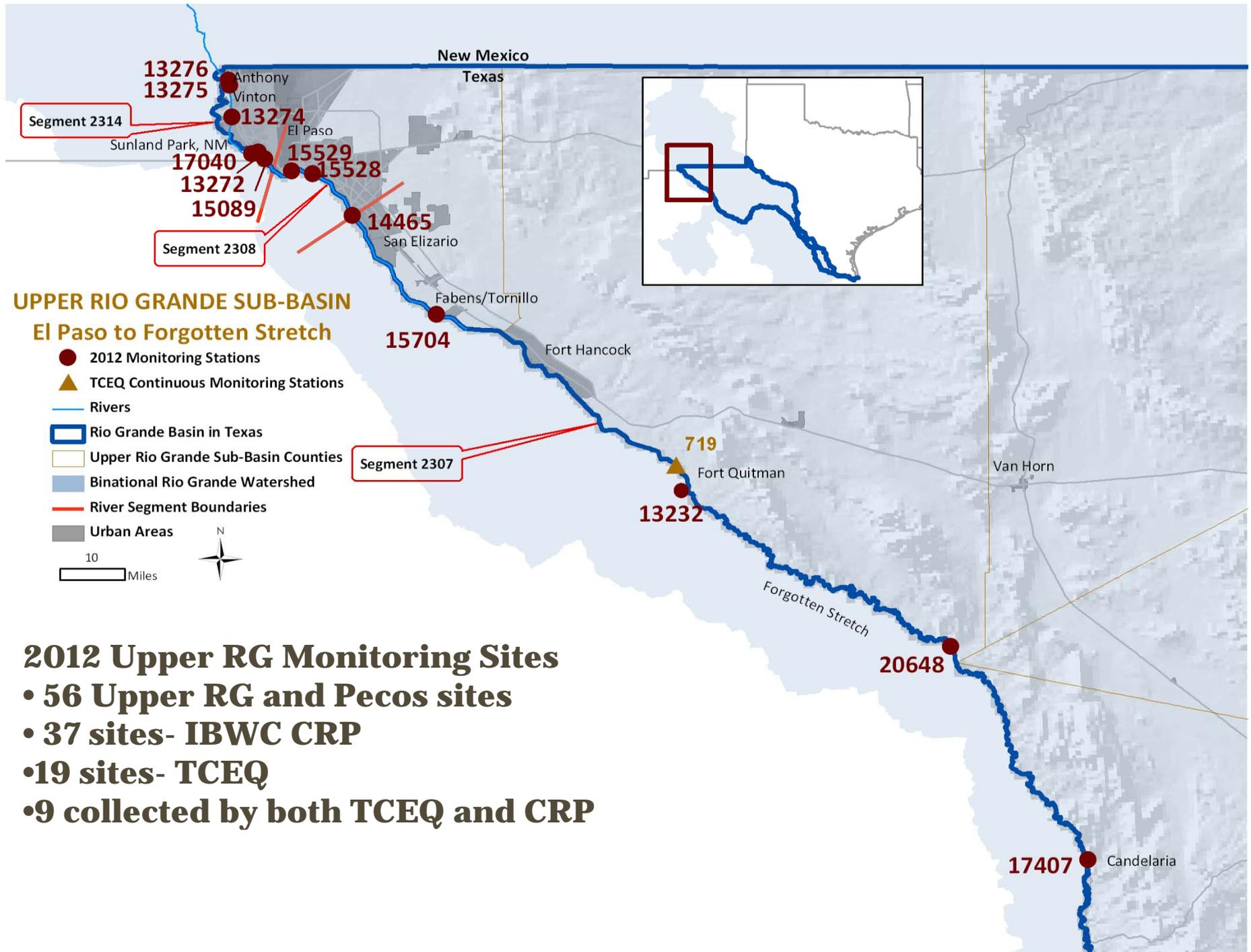
2012 Monitoring Sites

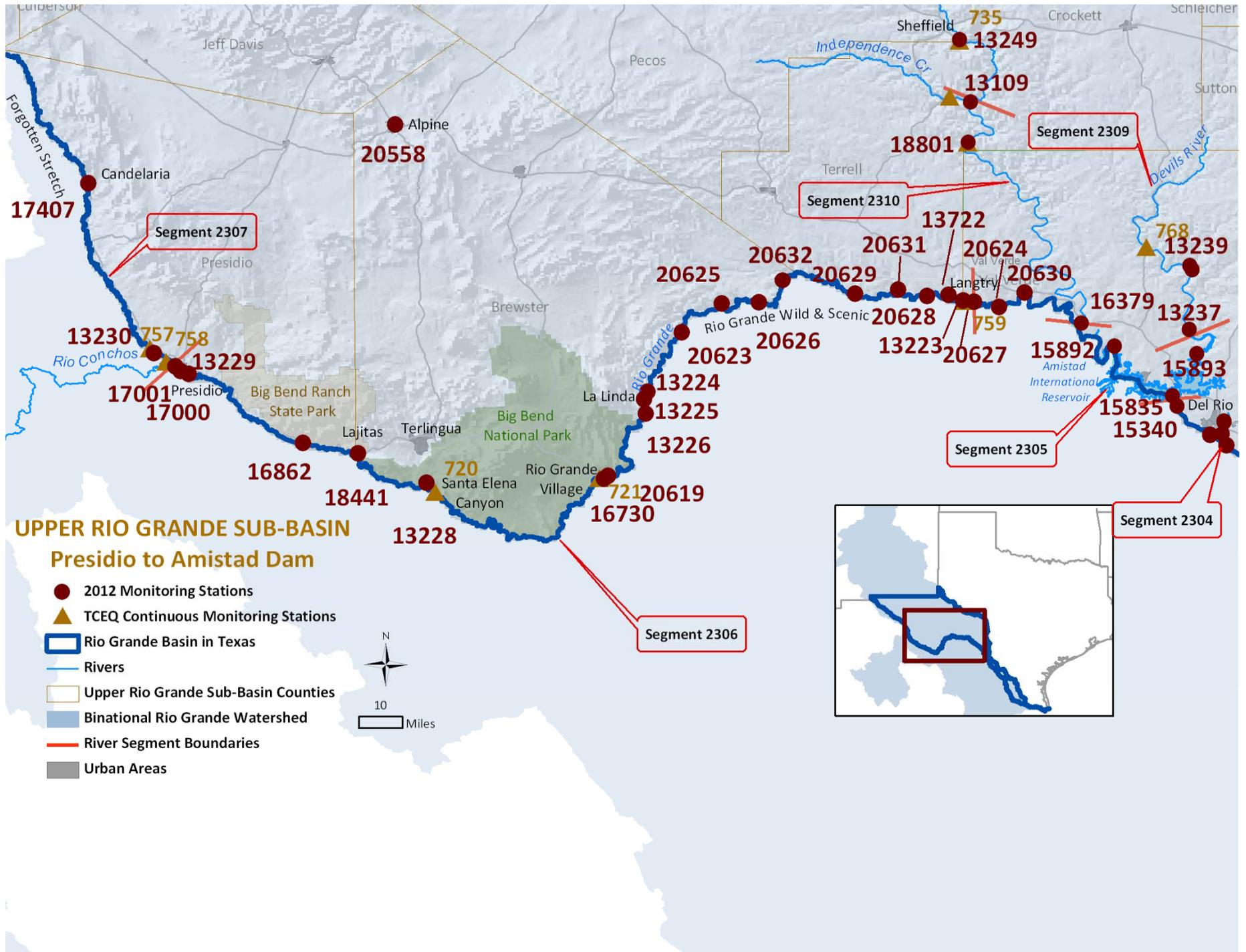


Local Partnerships



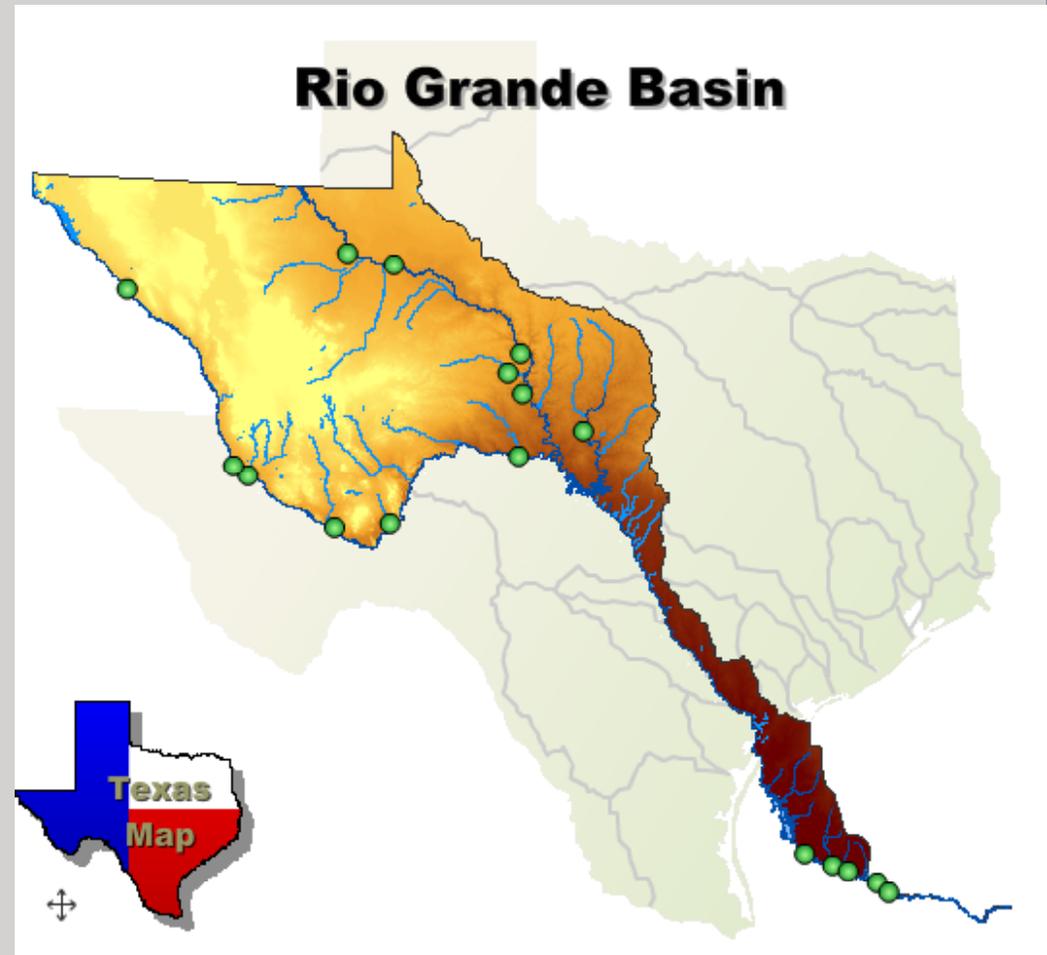
- **Partners in the Upper Rio Grande help monitor, collect, & analyze samples:**
 - USIBWC Field Offices at El Paso and Presidio
 - University of Texas at El Paso
 - El Paso Community College
 - Sul Ross State University
 - El Paso Water Utilities
 - TCEQ El Paso Field Office
 - Big Bend National Park
 - Big Bend Ranch State Park
 - TCEQ Continuous Water Quality Monitoring Program
- **All use TCEQ sampling procedures and an accredited laboratory for analysis**





TCEQ Continuous Water Quality Monitoring

- www.texaswaterdata.org
- 18 CWQM stations in RGB
 - Temp
 - pH
 - sp cond
 - water level
 - TDS
 - DO



Main Rio Grande Water Quality Issues



- **Bacteria**
- **Nutrients**
- **Salts**
- **Depressed DO**
- **Fish kills**
- **Illegal discharging**
- **Trash**
- **Exotic species**

Main Issues



An example of discharging.



An example of an invasive species, in this case aquatic weeds.

Main Issues



A large fish kill



**Fish kill in Presidio, TX,
June 2011**



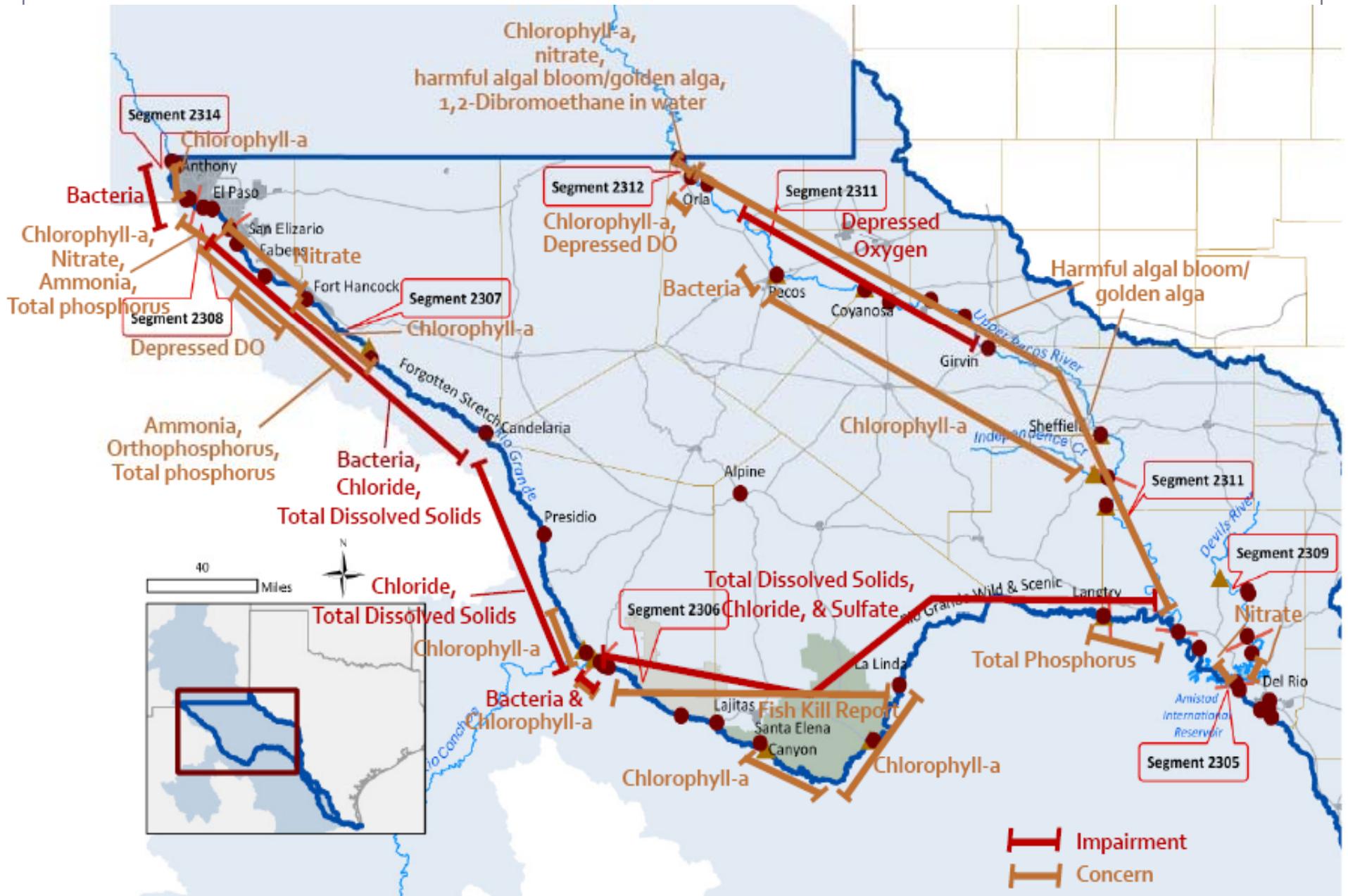
**Foam in the Rio Grande, possibly due to
high phosphate levels.**

2010 Assessment (Integrated Report)

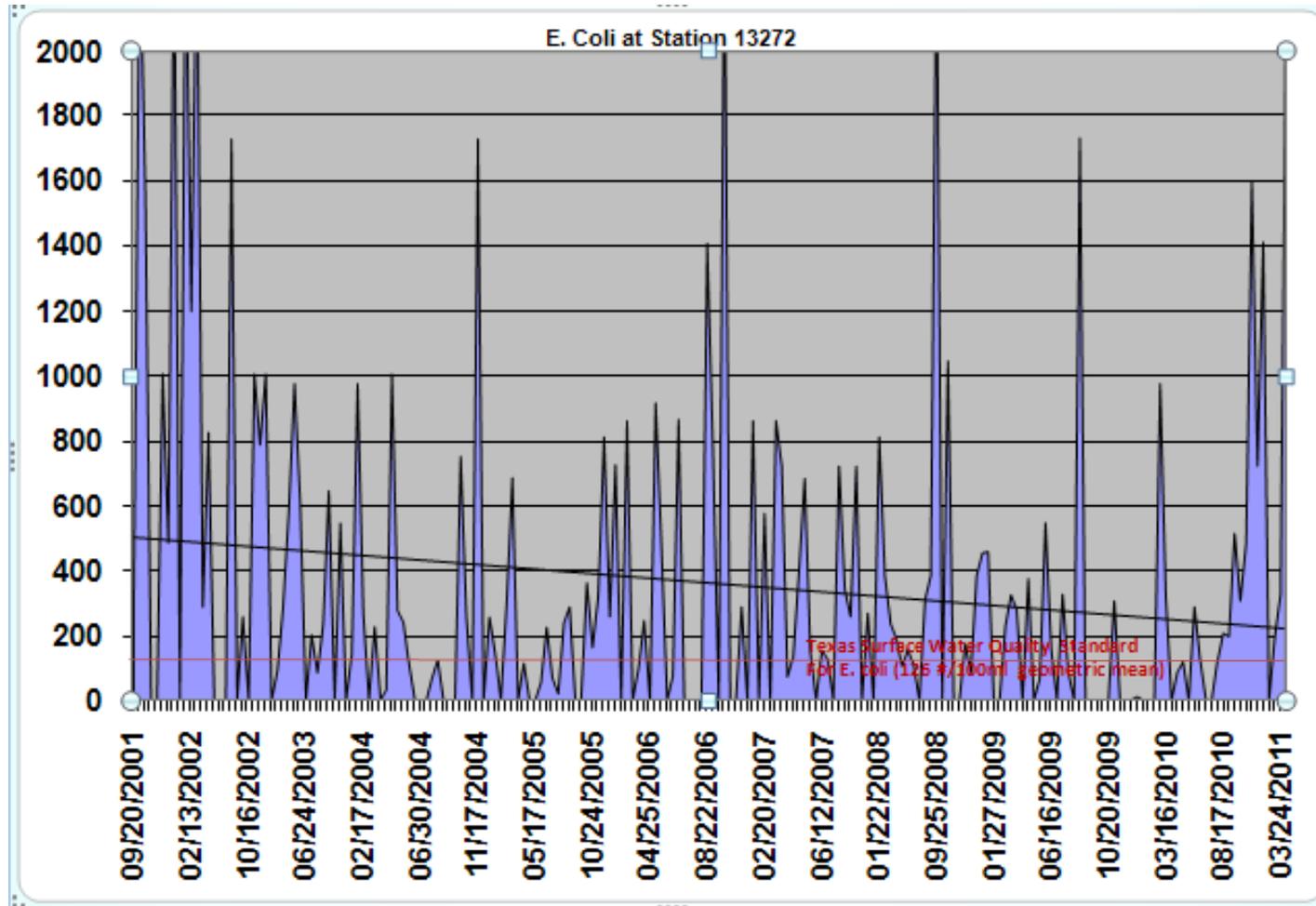


- States are required by the Clean Water Act to “assess” the health of the river basins
- Water bodies not meeting state water quality standards are listed on the impaired waters list (303d list)
 - Impairments → not meeting standards
 - Concerns → near non-attainment of standards, or
→ issues with parameters where standards don't exist
- 2010 assessment (draft) lists 2306 as impaired for salinity

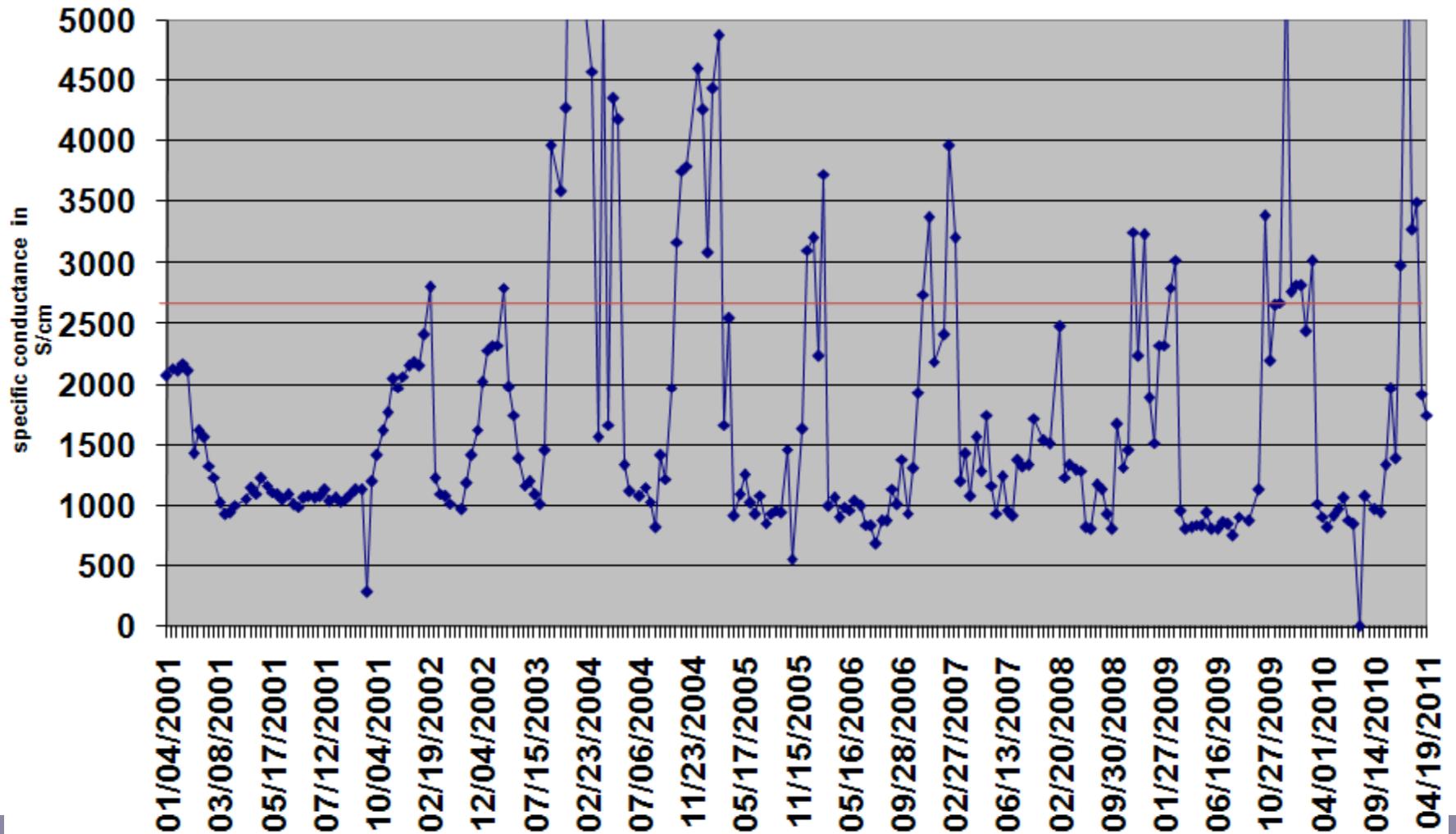
List of Impairments and Concerns in the Upper Rio Grande



E coli at 13272 in El Paso, 2001-2011



Conductivity at 13272 in El Paso, 2001-2010



2010 Texas Surface Water Quality Standards,
from the Texas Administrative Code Chapter 307.

RIO GRANDE BASIN		USES				CRITERIA						
		Recreation	Aquatic Life	Domestic Water Supply	Other	Cl ⁻¹ (mg/L)	SO ₄ ⁻² (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria ¹ #/100ml	Temperature (°F)
Segment No.	SEGMENT NAME											
2306	Rio Grande Above Amistad Reservoir	PCR	H	PS		300	570	1,550	5.0	6.5-9.0	126	93
2307	Rio Grande Below Riverside Diversion Dam	PCR	H	PS		300	550	1,500	5.0 ²	6.5-9.0	126	93
2308	Rio Grande Below International Dam	NCR	L			250	450	1,400	3.0	6.5-9.0	605	95
2309	Devils River ³	PCR	E	PS		50	50	300	6.0	6.5-9.0	126	90
2310	Lower Pecos River	PCR	H	PS		1,700	1,000	4,000	5.0	6.5-9.0	126	92
2311	Upper Pecos River	PCR	H			7,000	3,500	15,000	5.0	6.5-9.0	33	92
2312	Red Bluff Reservoir	PCR	H			3,200	2,200	9,400	5.0	6.5-9.0	33	90
2313	San Felipe Creek ³	PCR	H	PS		50	50	400	5.0	6.5-9.0	126	90
2314	Rio Grande Above International Dam	PCR	H	PS		340	600	1,800	5.0	6.5-9.0	126	92

¹ The indicator bacteria for freshwater is *E. coli* and Enterococci for saltwater. The indicator bacteria and alternate indicator for Segments 2311 and 2312 are Enterococci and fecal coliform, respectively.

² The dissolved oxygen criterion in the upper reach of Segment 2307 (Riverside Diversion Dam to the end of the rectified channel below Fort Quitman) is 3.0 mg/L when headwater flow over the Riverside Diversion Dam is less than 35 ft³/s.

³ The critical low-flow for Segments 2309 and 2313 is calculated according to §307.8(a)(2)(A) of this title.

2010 TSWQ Standards Revisions – Affects to RG Basin



- Contact Recreation → primary and secondary (all in RG are still primary) → Ecoli Bacteria standards change
- Entero → bacteria indicator in salty water (Pecos, tidal)
- Nutrient criteria added for Red Bluff Reservoir (chlorophyll-a) 25.14 ug/L
- TEXAS ADMINISTRATIVE CODE - [TITLE 30](#) ENVIRONMENTAL QUALITY [PART 1](#) TEXAS COMMISSION ON ENVIRONMENTAL QUALITY [CHAPTER 307](#) TEXAS SURFACE WATER QUALITY STANDARDS RULE §307.10

Nutrient Criteria



- EPA has mandated that states create **Numeric Nutrient Criteria**
- **2010 Standards:**
 - Chlorophyll-a criteria for 75 Reservoirs
- **2013 Standards:**
 - Criteria for rivers and streams
- → will impact **WWTP effluent limits**
- → **agriculture**
 - USDA 2010 report estimates 65% of farmers are not optimizing nutrient management

Total Phosphorus
Total Nitrogen
Chlorophyll-a
Turbidity

Historical conditions
Stressor Response

Mercury Study



- **CRP will collect water samples for mercury analysis.**
- **Samples will be collected at 14 sites in the Upper RG.**
- **Sent for analysis to the CRP contract laboratory**

TCEQ Least Disturbed Streams



- TCEQ Surface Water Quality Monitoring Program, TCEQ Regional Staff, TPWD
- Sampling over next several years
- Evaluate the biological condition of least disturbed streams in ecoregions throughout Texas
- Includes 2306, Alamito Creek, Devils River, Live Oak Creek, Independence Creek

USIBWC's Adopt-a-River Program



- Community groups adopt a 2-mile section of river for 2 years
- Commit to 2-3 cleanups per year

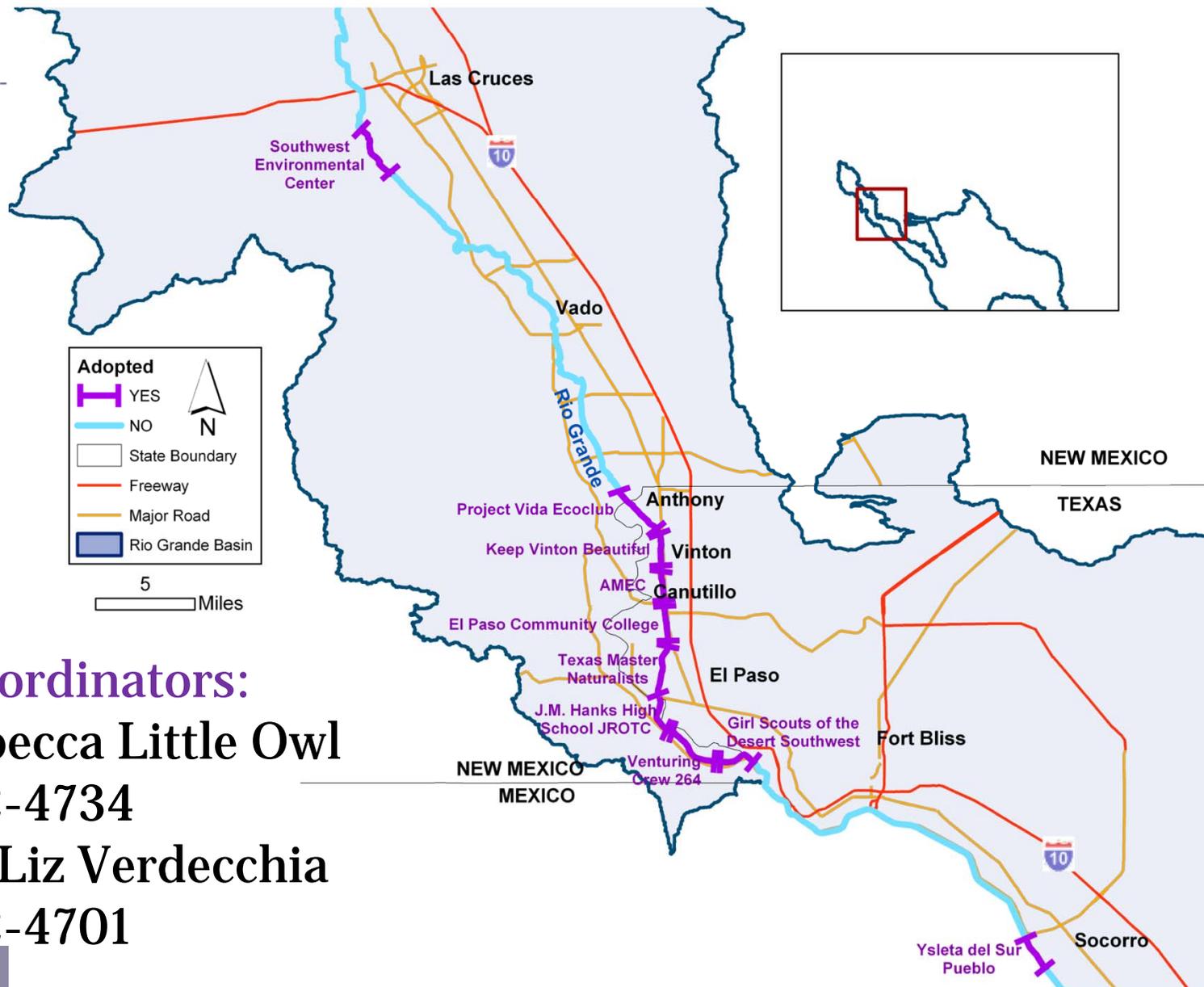


Adopt-a-River Program



- **Community groups leave trash bags on levee**
- **IBWC picks up and disposes of trash**
- **Sign acknowledging group posted**
- **Sections in NM still available for adoption**

Adopted River Sections



AAR Coordinators:

NM Rebecca Little Owl

915-832-4734

TEXAS Liz Verdecchia

915-832-4701

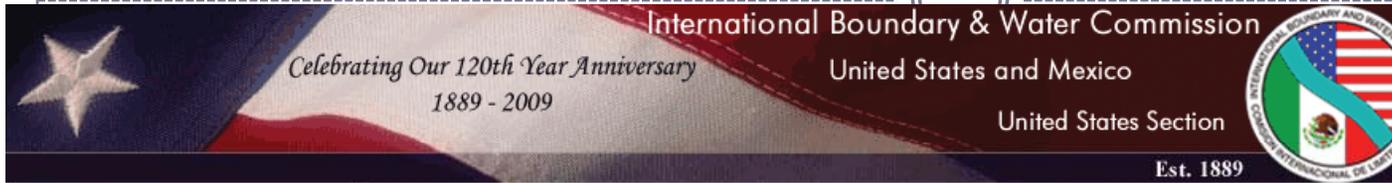
Paso del Norte Watershed Council



- Address watershed issues from Elephant Butte to Presidio
- Received grant for watershed plan (319)
 - Intensive bacteria monitoring
 - Bacteria source-tracking
- Currently having monthly stakeholder meetings to update Watershed Restoration Action Strategy
 - **October 21, 9-11 am, Mesilla Bosque State Park**
 - Contact Chris Canavan chris.canavan@state.nm.us or Brian Hanson BHanson@nmda.nmsu.edu

CRP Website

www.ibwc.gov/CRP/Index.htm



RECOVERY.GOV

- Home
- About Us
- Employment Opportunities
- Organization
- Mission Operations
 - Flood Control Levee Systems
 - Diversion Dams & Related Structures
 - Storage Dams (Reservoirs) / Power Plants
 - Wastewater Treatment Plants
 - Field Offices
 - TEXAS CLEAN RIVERS
 - Emergency Management
- Treaties / Minutes
- Permits / Licenses
- Water Data
- GIS / Maps
- News / Publications
- Citizens Forums
- Reports / Studies
- Links
- Contact Us

Enter Search Keyword:



The International Boundary and Water Commission, U.S. Section (USIBWC) Texas Clean Rivers Program (CRP) is responsible for collecting water quality data throughout the Texas portion of the Rio Grande Basin. CRP is a state fee-funded program for water quality monitoring, assessment, and public outreach, and aims to maintain and improve the quality of water within each river basin in Texas through partnerships with the Texas Commission on Environmental Quality (TCEQ) and participating entities. [More...](#)



NEWS JUNE 2011:
LOWER RIO GRANDE BASIN ADVISORY MEETING SCHEDULED FOR JUNE 22 IN WESLACO, TX.
FINAL 2011 BASIN HIGHLIGHTS REPORT POSTED ON PUBLICATIONS PAGE.
LAREDO BACTERIA SPECIAL STUDY SAMPLING CONDUCTED MAY 2011. STUDY PLAN AND MEDIA ARTICLES POSTED ON STUDIES PAGE.
WORLD WATER DAY STUDENT DRAWING CONTEST WINNING ENTRIES WILL BE POSTED ON GALLERY IN LATE JUNE.
UPPER PECOS AQUATIC LIFE MONITORING VIDEO AVAILABLE ON GALLERY.
USIBWC CRP CONTINUES TO WORK WITH EPCC FOR SERVICE LEARNING PROGRAM OPPORTUNITIES.

Study Area
Locate IBWC stream gages, data and other useful map information using the USIBWC GIS Interactive Map page. Also has static maps of the Rio Grande Basin

Monitoring Station Data
View a list of monitoring stations by segment in the Rio Grande basin. Click on the station ID to view an Excel file with water quality data for that station from 1995 to present

Calendar / Current Activities
Learn about upcoming events and current activities of the Clean Rivers Program

Publications
View the CRP Basin Reports, outreach publications, administrative docs, and QAPP

Media Gallery
See photos and videos of past CRP events and monitoring activities

Participation
Learn about the CRP Basin Advisory Committee and ways to get involved

- Data
- Maps
- Calendar
- Publications
- Projects & studies
- Outreach
- RG info
- Photos & videos
- Links, etc

Questions?



USIBWC – CRP

Elizabeth Verdecchia

Elizabeth.Verdecchia@ibwc.gov or 915-832-4701

Leslie Grijalva

Leslie.Grijalva@ibwc.gov or 915-832-4770

Or send an email to crp@ibwc.gov

CRP Website

www.ibwc.gov/CRP/Index.htm