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

USIBWC Citizens' Forum
and Upper Rio Grande Basin Advisory Meeting
September 15, 2010

Elizabeth Verdecchia and Leslie Grijalva
Texas Clean Rivers Program
U.S. Section,
International Boundary and Water Commission

Texas Clean Rivers Program History

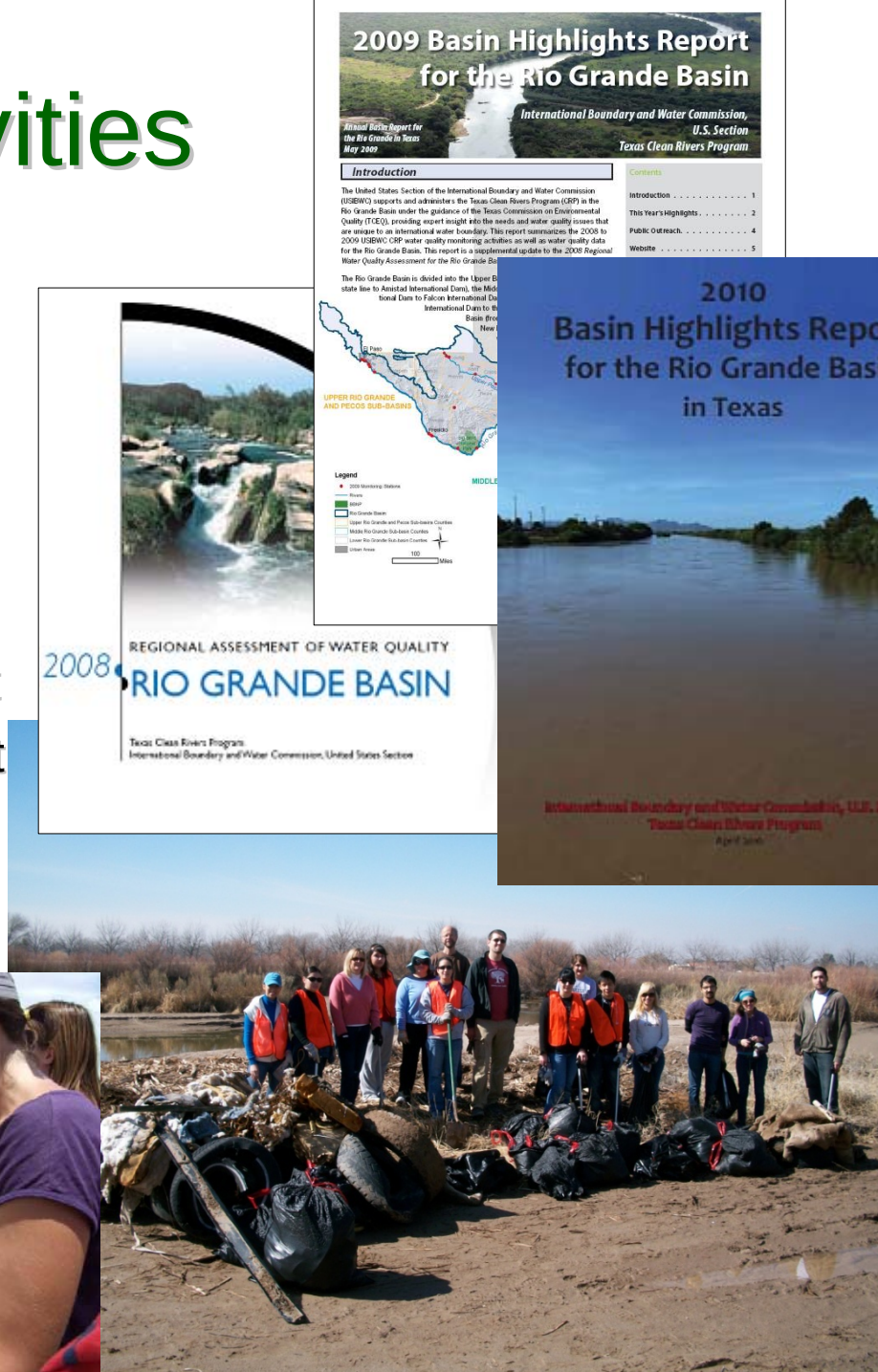
- 1991 Texas Clean Rivers Act
- 1998 TCEQ-USIBWC partnership
- 2010 monitoring sites on Rio Grande:
  - CRP – 54 sites
  - TCEQ – 38 sites

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 states 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

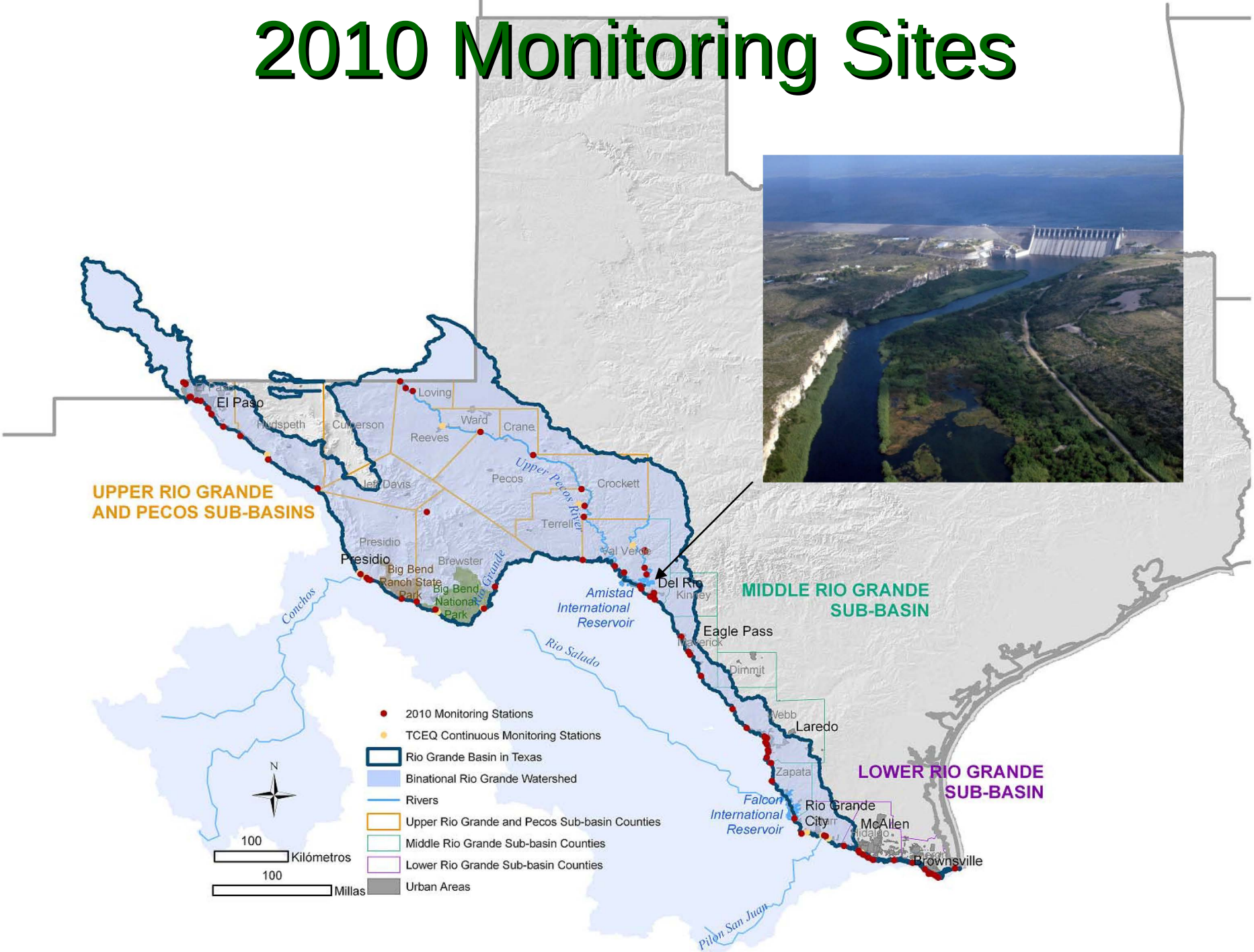
- Water Quality Monitoring
  - Routine monitoring
  - Special studies
- Water Quality Assessment
- Publications
  - Annual Basin Highlight Report
  - 5-year Basin Summary Report
- Outreach and Education
- Public Participation



Interested in Monitoring?

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

2010 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 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

Upper Rio Grande

- El Paso to Amistad Reservoir
- Pecos, Devils Creek and Independence creek are tributaries
- 34 monitoring stations
- Major Cities/Landmarks – El Paso, Forgotten Stretch, Presidio, Big Bend Parks and Wild & Scenic
- Rio Conchos from Mexico

Forgotten River and Rio Conchos

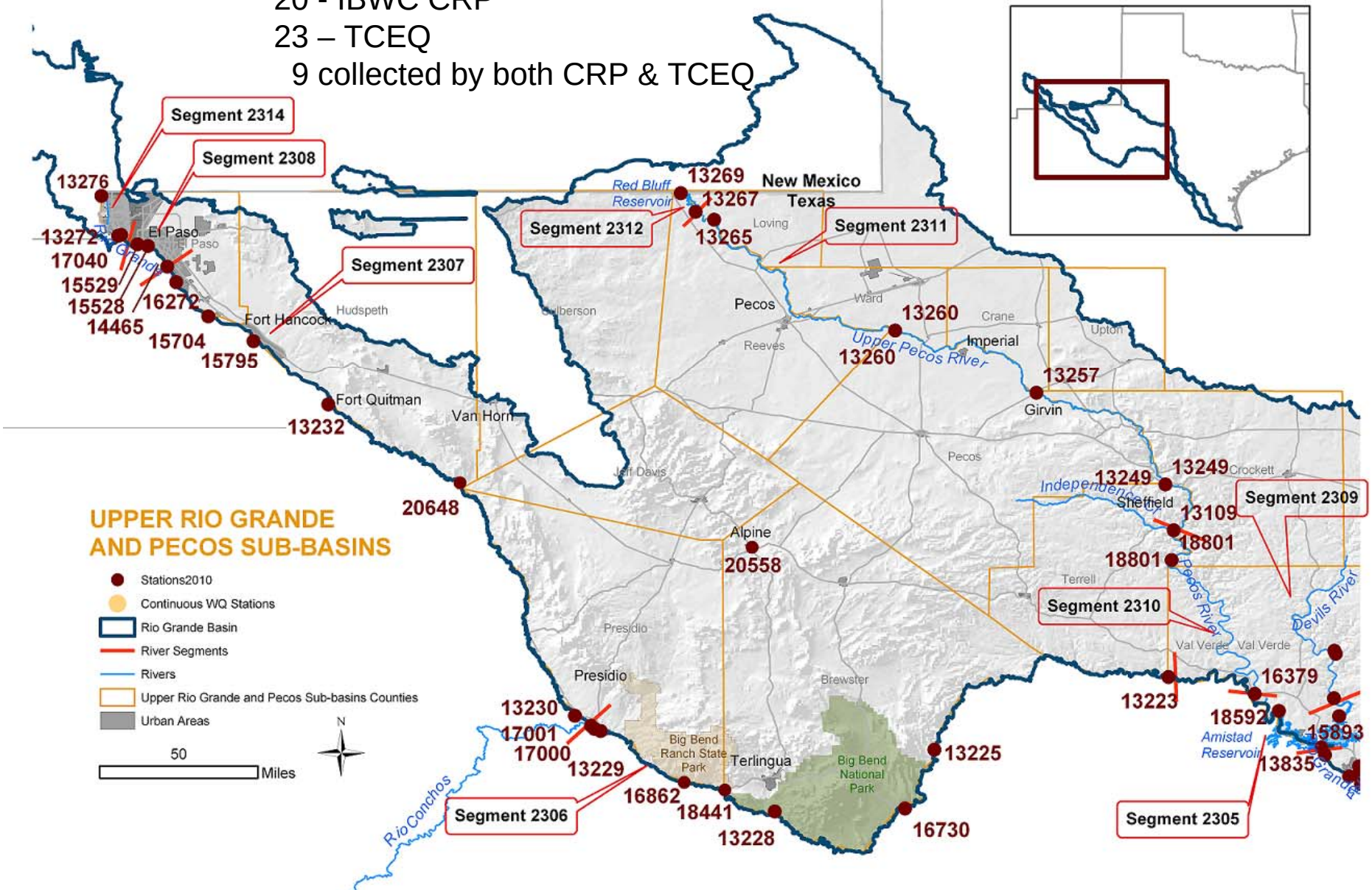
Big Bend State & National Parks

Rio Grande Wild & Scenic

2010 Upper RG Monitoring Sites

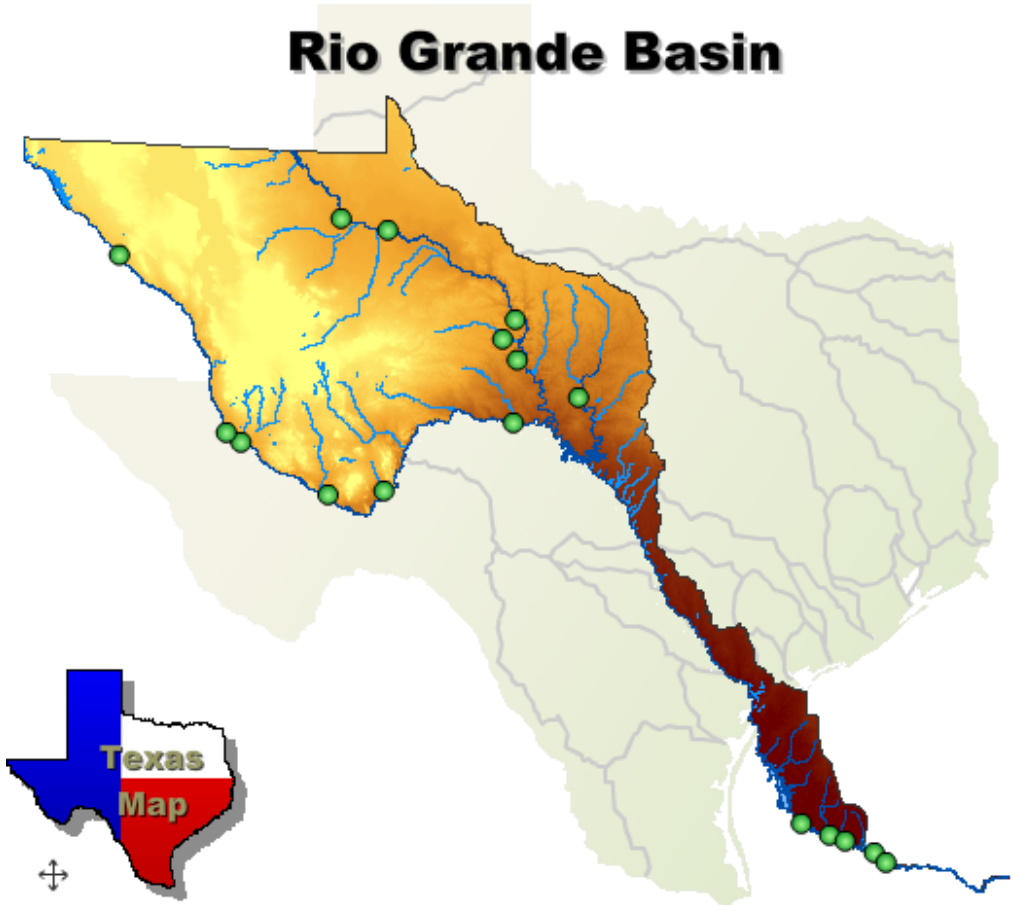
34 Upper & Pecos RG Sites:

20 - IBWC CRP
23 – TCEQ
9 collected by both CRP & TCEQ



TCEQ Continuous WQ Monitoring

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



Main RG Basin Water Quality Issues

- Bacteria
- Phosphorous/Nutrients
- Nitrates
- Salts
- Mercury in fish tissue
- Depressed DO
- Fish kills
- Illegal discharging
- Trash
- Exotic species

Water Quality Uses and Standards

RIO GRANDE BASIN		USES				CRITERIA						
Segment No.	SEGMENT NAME	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)
2305	International Amistad Reservoir	CR	H	PS		150	270	800	5.0	6.5-9.0	126/200	88
2306	Rio Grande Above Amistad Reservoir	CR	H	PS		300	570	1,550	5.0	6.5-9.0	126/200	93
2307	Rio Grande Below Riverside Diversion Dam	CR	H	PS		300	550	1,500	5.0[2]	6.5-9.0	126/200	93
2308	Rio Grande Below International Dam	NCR	L	PS		250	450	1,400	3.0	6.5-9.0	605/2,000	95
2309	Devils River	CR	E	PS		50	50	300	6.0	6.5-9.0	126/200	90
2314	Rio Grande Above International Dam	CR	H	PS		340	600	1,800	5.0	6.5-9.0	126/200	92

- TCEQ uses these standards to assess the river and determine if any segments are impaired (303d List)
- 2308 Non-contact use
- TDS 1400-1800 in river

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

Impairments and Concerns on the draft 2010 Texas Water Quality Integrated Report/ 303(d) List

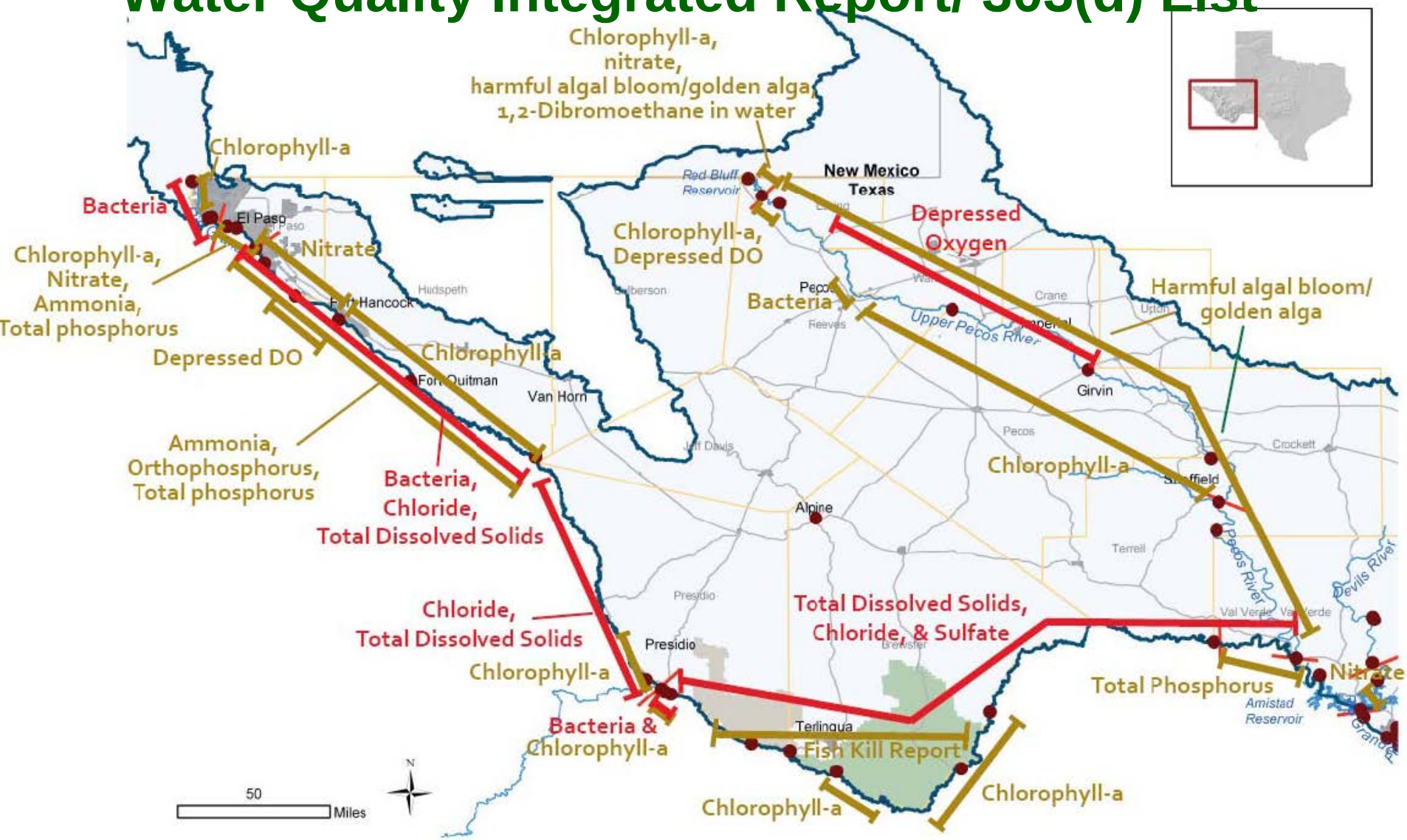


Figure 2. a) Upper Rio Grande and Pecos

2010 TSWQ Standards Revisions – Affects to RG Basin

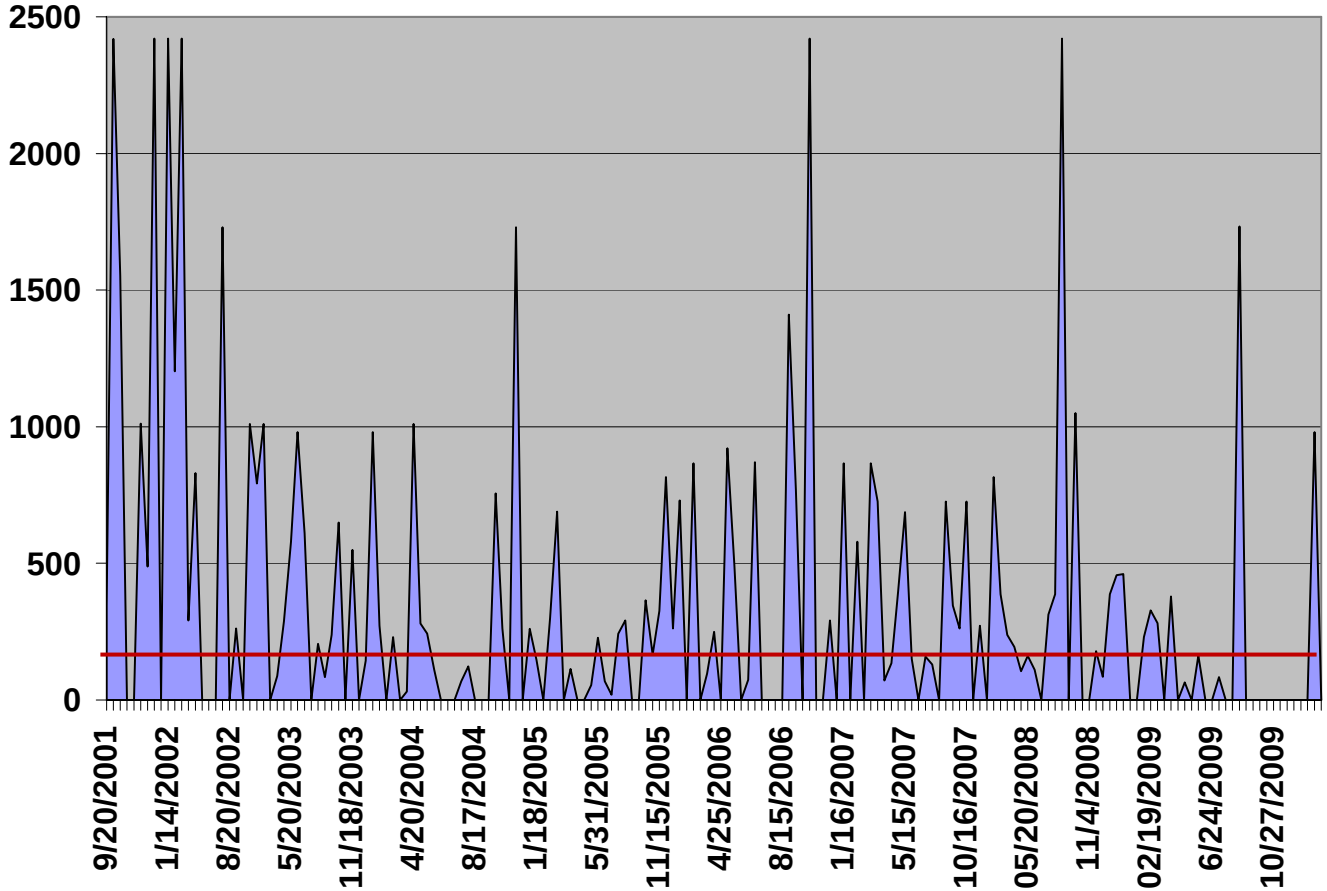
- Contact Recreation → primary and secondary (all in RG are still primary) → Ecoli Bacteria standards change
- Entero → bacteria indicator in salty water (Pecos, tidal)
- Sole-source surface drinking supply designations for Lower RG Valley (2302-2304)
- Nutrient criteria added for Red Bluff Reservoir (chlorophyll-a) 25.14 ug/L

- TEXAS ADMISTRATIVE CODE - TITLE 30 ENVIRONMENTAL QUALITY PART 1 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CHAPTER 307 TEXAS SURFACE WATER QUALITY STANDARDS RULE §307.10

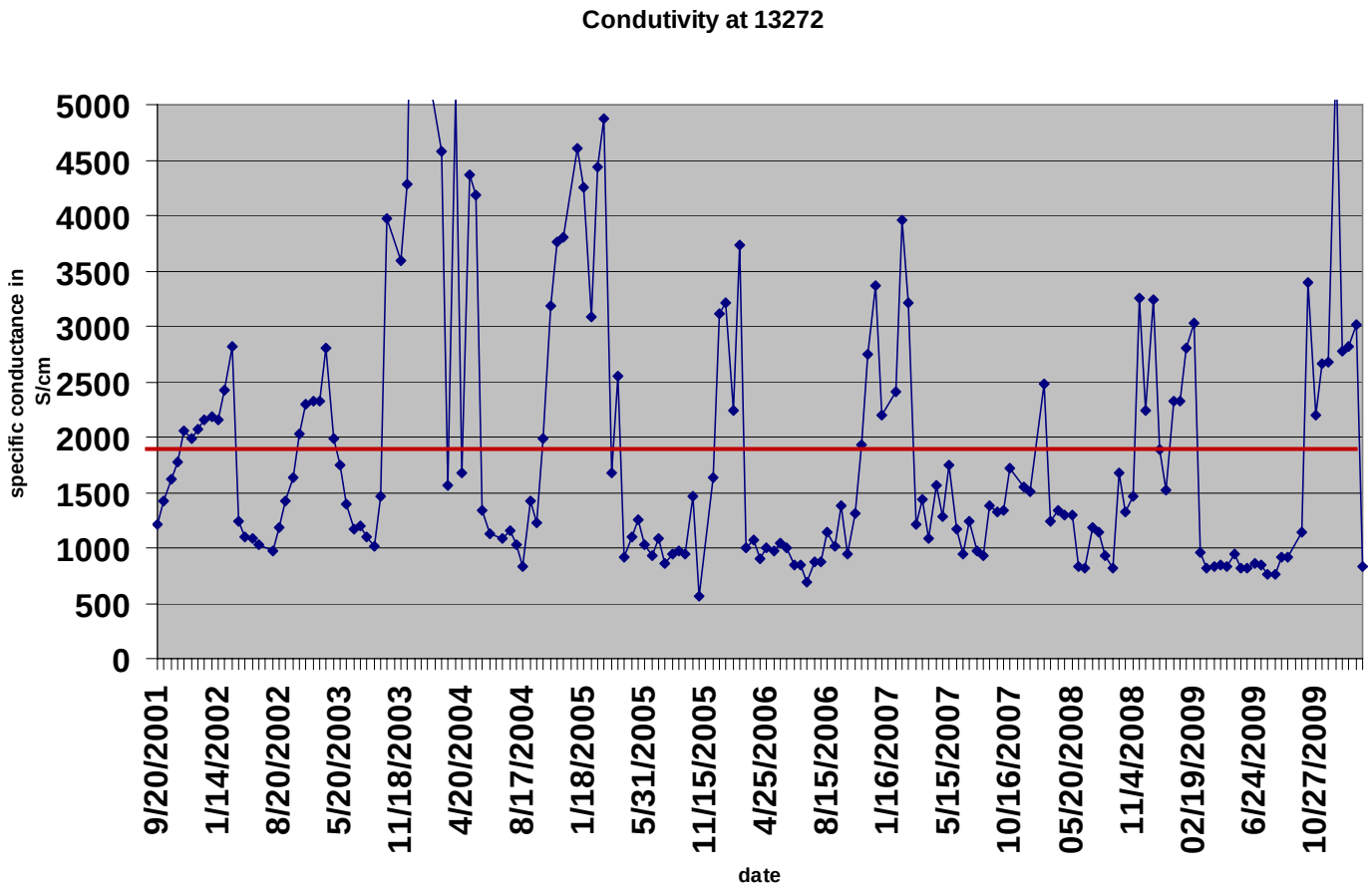
2010 TSWQ Standards Revisions

Segment No.	RIO GRANDE BASIN SEGMENT NAME	USES: Recreation	Aquatic Life	Domestic Water Supply	Other	CRITERIA: 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)
2301	Rio Grande Tidal	PCR	E						5.0	6.5-9.0	35	95
2302	Rio Grande Below Falcon Reservoir	PCR	H	PS		270	350	880	5.0	6.5-9.0	126	90
2303	International Falcon Reservoir	PCR	H	PS		200	300	1,000	5.0	6.5-9.0	126	93
2304	Rio Grande Below Amistad Reservoir	PCR	H	PS		200	300	1,000	5.0	6.5-9.0	126	95
2305	International Amistad Reservoir	PCR	H	PS		150	270	800	5.0	6.5-9.0	126	88
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

E coli at 13272 in El Paso, 2001-2010



E coli at 13272 in El Paso, 2001-2010



Metals Study

- CRP will collect total and dissolved metals at 5 sites in El Paso
- Under TCEQ quality assurance plan
- Use TCEQ metals kits

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
- 1. Determine if small unclassified streams could support significant aquatic life uses;
- 2. Determine if regional patterns in physical, chemical or biological attributes of streams exist in TX;
- 3. Refine and verify Texas Ecoregion boundaries;
- 4. Develop procedures for assessing aquatic life uses in Texas streams.
- Includes 2306, Alamito Creek, Devils River, Live Oak Creek, Independence Creek

EPCC Service Learning Program

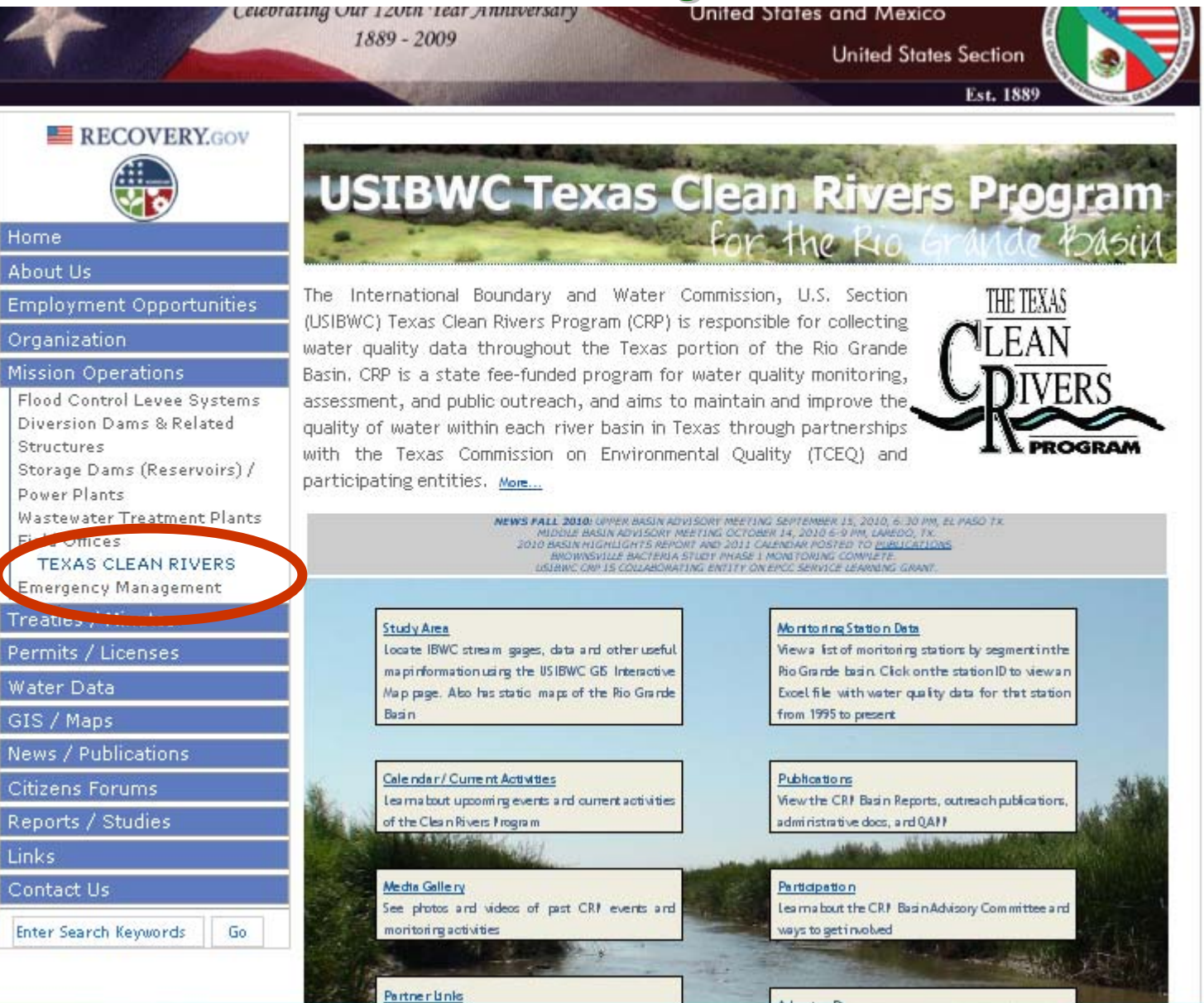
- EPCC grant for STEM students through Service Learning
- IBWC CRP is a collaborating entity (with Zoo & Keystone)
- Students can gain hands-on experiences with CRP in:
  - Water quality monitoring
  - River cleanups
  - Outreach activities
  - Scientific literature reviews, etc
  - Creation of materials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

Día del Rio 2010

- Activities throughout basin from Colorado to Gulf
- Schools will be collecting samples and water quality info on Oct 6 in CO, NM, TX and Mexico
  - IBWC CRP will sample with Franklin HS at American Dam
- School groups will make YouTube videos
- Water Relay culminates in Gulf on Oct 16
- Local activities are posted at www.diadelrio.org

CRP Website

www.ibwc.gov/CRP/Index.htm



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

Photo and Video Gallery

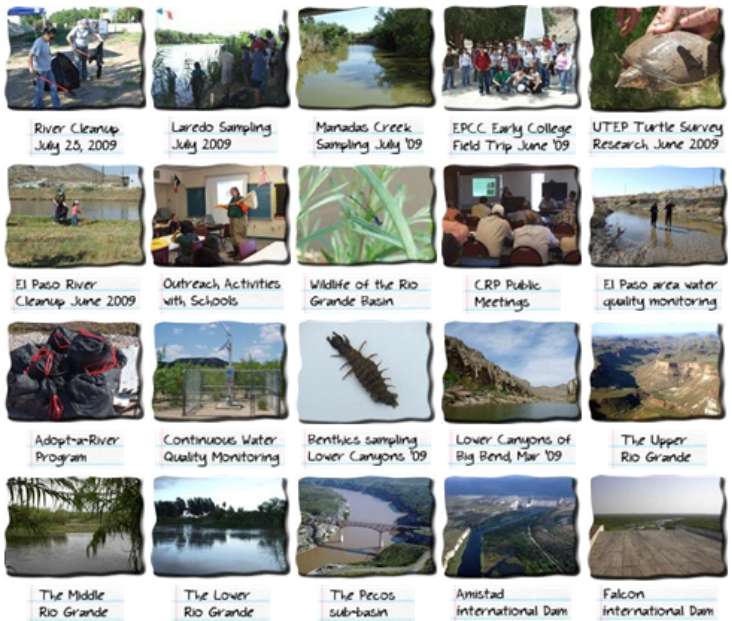
The USIBWC Clean Rivers Program MEDIA GALLERY

Welcome to the Clean Rivers Program Photo and Video Gallery! This page has pictures and videos from past CRP events and water monitoring. *Note: Both the photo and video galleries require Adobe Flash to be installed on your browser.*

PHOTO GALLERY | VIDEO GALLERY

PHOTO GALLERY

Click on the album below to see additional pictures or to view the video.



VIDEO GALLERY

CRP Photo Gallery - River Cleanup June 13, 2009

USIBWC CRP hosted a river cleanup event on June 13, 2009 with other organizations, including Individual Owners of the Rio Grande (RiGo), Keep El Paso Beautiful, Boy Scouts, and others. The cleanup was located at Courchesne Bridge, at the intersection of Paisano and McNutt in El Paso, Texas. A total of 37 people participated, and we collected 43 bags of trash, 11 tires, some odd-and-end garbage, and a couch! We had two local television stations cover the event. Thank you to everyone who coordinated and participated in the cleanup.

Powered by Flash Gallery

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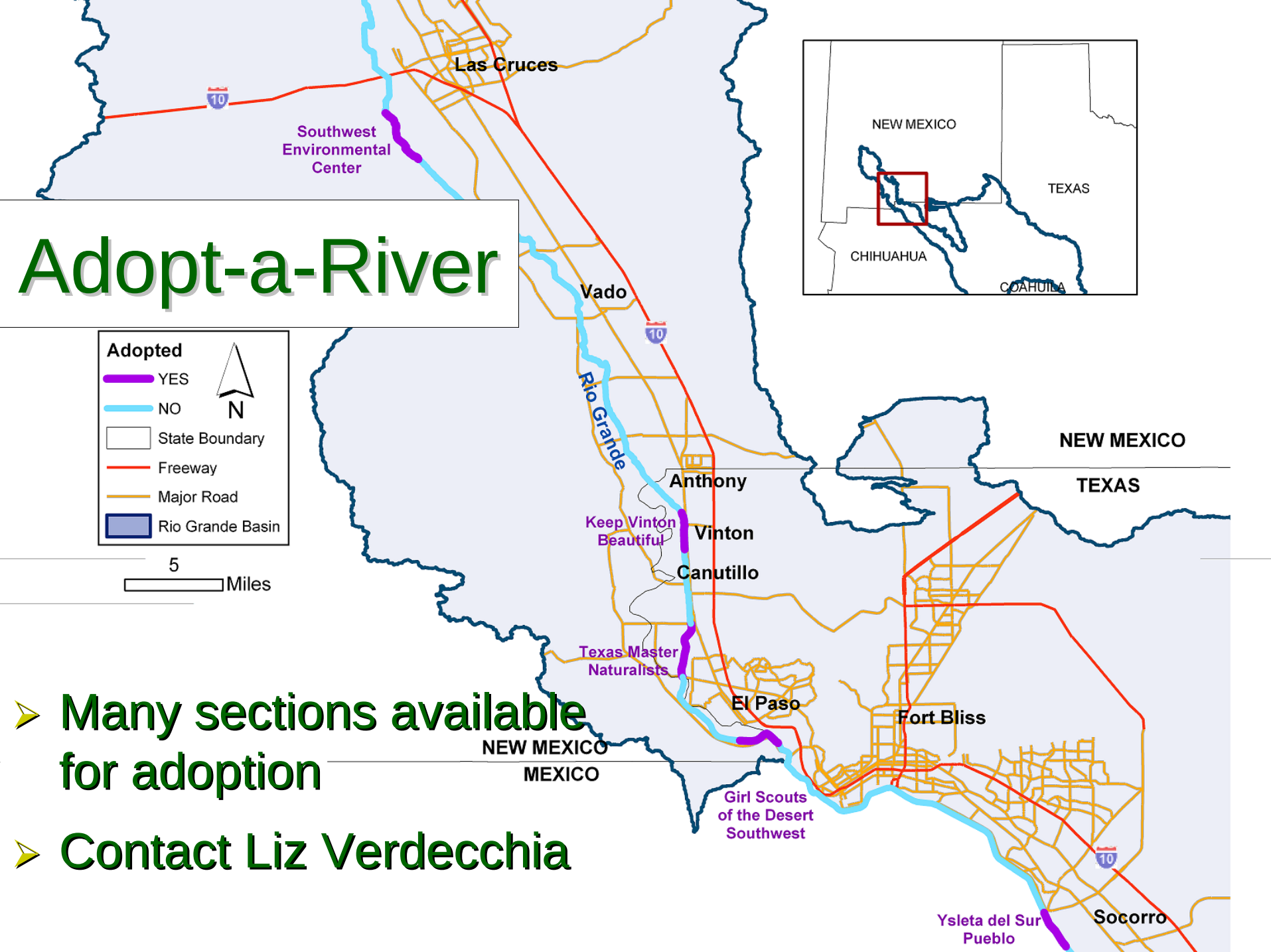
USIBWC's Adopt-a-River Program

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

Adopt-a-River

- Community groups leave trashbags on levee
- IBWC picks up and disposes of trash
- Sign acknowledging group posted

Adopt-a-River



- Many sections available for adoption
- Contact Liz Verdecchia

Questions?

USIBWC - CRP

Elizabeth Verdecchia, 915-832-4701

Leslie Grijalva, 915-832-4770

crp@ibwc.gov

CRP Website

www.ibwc.gov/CRP/Index.htm