April 30, 2002

The Rio Grande Basin Highlights Report

U. S. International Boundary and Water Commission - Clean Rivers Program

Building a foundation through:

- Partnerships with federal, state, and local governments, and local citizens
- Addressing concerns through special studies
- Developing a network for water quality monitoring
- Public education

Inside this issue:

The Texas Clean Rivers Program

The United States Section of the International Boundary and Water Commission (USIBWC) during the past year has continued to enthusiastically support and administer the Texas Clean Rivers Program (CRP) in the Rio Grande Basin, providing expert insight into the needs and water quality issues that are unique to an international water boundary.

Training with CRP partners from the City of Del Rio on San Felipe Creek.

CRP partners throughout the basin have been a valuable asset in water quality monitoring, advice and suggestions on improving the CRP program, developing and assisting in special study programs, and communicating with and educating the general public. Government agencies and private citizens are working towards a common goal, the preservation of our most valuable natural resource, water.

Ongoing special studies are also providing greater insight into the state of the river and areas with special needs. More of these kinds of studies will help in maintaining the river as well as improve conditions.

Coordinated Monitoring Meetings

Our annual coordinated monitoring meetings this year were held in Pecos, Harlingen, Laredo, and El Paso. These meetings help us maintain a peak level of communication with our partners to discuss issues affecting the program, the environment, and the monitoring concerns at the local level.

Topics discussed included coordinated monitoring schedules, special projects, FY 2003 program tasks, issues within the sub basins that need to be addressed, new monitoring stations and parameters, and priority areas of concern.

Texas Clean Rivers Program Website

Our website address is:

www.ibwc.state.gov/CRP/Welcome.htm

Our website is devoted to making available information about our sampling locations, frequency, and water quality data. Upon entering the site, you will notice several headings on the left side of the site. Clicking on these headings will take you to the subject areas described as follows:

Study Area

The first page describes the area of the state where we monitor water quality. Clicking on the graphic will then take you to a more detailed and interactive map of the sub basin. Information on our monitoring sites, river segments, counties and cities can be obtained by clicking on the graphic. When clicking on monitoring stations, zoom in to insure separation between some of the sites.

Current Activities

This area describes some of the important activities that we are involved in.

Basin Highlights Report

This area is a duplicate of our printed Basin Highlights Report.

Monitoring Stations and Water Quality Data

Both of these links lead to a page containing a list of our monitoring stations by segment. Each station has a link to an Excel file containing all of the water quality data that we have available. We have also made available a link to a description of the monitoring parameters and a list of the monitoring schedule.

TNRCC Data Link

This will send you to the Texas Natural Resource Conservation Commission (TNRCC) web page where you can request water quality data from ours and any other basin in the state of Texas.

CRP Planning Agencies and Program Partners

These links will take you to a page listing other planning agencies in the state and a page listing organizations that we have partnered with in an effort to collect and disseminate water quality data. If these agencies have a web site, then we have provided a link to their web site.

Contacts

This page contains a list of the personnel working in the Rio Grande Clean Rivers Program and how to contact them.

Related Internet Links

Here we have put together a list of links to other agencies that are also working to improve the environment or are working with the Clean Rivers Program.

If there is any information that you would like to see made available on our web site or suggestions on how to improve the site, please contact us and let us know.

The International Boundary and Water Commission

United States Section

Texas Clean Rivers Program

Rio Grande Basin

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Background

In 1991, the Texas Legislature passed the Texas Clean Rivers Act (Senate Bill 818) in response to growing concerns that water resource issues were not being pursued in an integrated, systematic manner. The act requires that ongoing water quality assessments be conducted for each river basin in Texas, an approach that integrates water quality and water quantity issues within a river basin, or watershed. The Clean Rivers Program (CRP) legislation mandates that "each river authority (or local governing entity) shall submit quality-assured data collected in the river basin to the commission." "Quality assured data" in the context of the legislation means "data that complies with the commission rules for water quality monitoring programs, including rules governing the methods under which water samples are collected and analyzed and data from those samples are assessed and maintained."

Because of the international nature of the Rio Grande, the State of Texas contracted with the U.S. Section of the International Boundary and Water Commission in October 1998 to implement the CRP for the Rio Grande in its 1,254-mile international boundary section.

Program Goal

The goal of the CRP is to maintain and improve the quality of water within each river basin in Texas through an ongoing partnership involving the Texas Natural Resource Conservation Commission (TNRCC), river authorities, (Program Partners), other agencies, regional entities, local governments, industry, and citizens. The program uses a watershed management approach to identify and evaluate water quality issues, establish priorities for corrective actions, and work to implement those actions.

Last revised 3/27/02

The welcome page for the Clean Rivers Program web site.

Public presentation on the progress of special studies on the Pecos River

Where can I get more information?

Water quality information is available through the CRP office in El Paso by contacting Mr. Wayne Belzer, CRP data manager, at 915-832-4703. Water quality data, basin maps, annual reports, and other information is available in printed or electronic format. Copies of previous reports and studies are also available through the CRP office. Water quality data and additional reports can also be obtained through the Texas Natural Resource Conservation Commission (TNRCC).

Public information is also available at the following web sites:

USIBWC - www.ibwc.state.gov

USIBWC Clean Rivers Program - www.ibwc.state.gov/CRP/welcome.htm

TNRCC– www.tnrcc.state.tx.us

U.S. Environmental Protection Agency's (USEPA) your community web site -

www.epa.gov/epahome/comm.htm

Through public involvement, we can increase knowledge of the issues affecting our environment and work together to address these issues.

How can I get involved?

Individuals and volunteer groups can participate in the Clean Rivers Program as members of the Basin Advisory Committee (BAC) or by participating in the water quality monitoring program. BAC meetings are open to the public and held annually within each sub-basin to discuss the previous year's activities. Members of the public are encouraged to present ideas and information that will help the CRP focus on issues that are important to the local community. CRP staff take the information collected from the BAC meetings and address the issues by collecting additional information through special studies or utilizing existing data. People who are interested in water quality monitoring can participate as a partner in the CRP. The CRP provides training and loans equipment to groups who agree to collect water quality samples in their area of interest utilizing CRP guidelines.

The BAC meetings will be held this year (around July—August) at the following locations:

Upper Rio Grande BAC meeting– El Paso, Texas

Middle Rio Grande BAC meeting– Laredo, Texas

Lower Rio Grande BAC meeting– Harlingen, Texas

Meeting in the Lower Rio Grande Valley.

What do we do with the data ?

Samples are collected within the basin based on the agreed-upon monitoring schedule. The samples are then analyzed and the data are checked for accuracy, quality, and adherence to approved methods. The data are submitted to TNRCC who further checks the data and compiles all of the data for inclusion in the USEPA 305(b) report. The 305(b) report is a summary of the water quality in the streams and reservoirs of the state. If any section of a stream does not meet the water quality standards, it is placed on the 303(d) report. The 303(d) report lists the concern or impairment for a section of the river, which will dictate what course of action should be taken to determine the cause of the concern so that a possible solution to the problem can be implemented.

Monitoring

Monitoring types

Routine monitoring – This is the primary monitoring done along the river. Routine monitoring is performed at a fixed location at regular intervals throughout the year for specific parameters as listed below to establish a baseline of data and provide information about the ambient water quality conditions in the water body.

Intensive monitoring – This type of monitoring is performed at a routine monitoring site to provide more detailed information by using a more intensive monitoring schedule or additional parameters not performed during the routine analysis.

Special studies – This type of monitoring is performed in a river segment to address concerns identified by local communities, determine unique impacts in that area, or to supplement information gathered in that segment.

Parameters monitored

Conventionals	Metals in water	Field	Metals in sediment
Chlorophyll-a	Total	Water temperature	Aluminum
Suspended solids	Selenium	Air temperature	Silver
Dissolved solids	Hardness	pH	Barium
Volatile solids	Mercury	Dissolved oxygen	Cadmium
Ammonia		Conductivity	Chromium
Total phosphorus	Dissolved	Secchi disk	Copper
Ortho phosphorus	Aluminum	Water depth	Lead
Alkalinity	Arsenic	Weather conditions	Manganese
Chloride	Barium		Mercury
Nitrate/nitrite	Cadmium		Nickel
Sulfate	Chromium		Selenium
Total organic carbon	Copper		Zinc
Calcium	Nickel		
Magnesium	Silver		
Potassium	Zinc		
Sodium			
Silica			

Monitoring schedule legend

Monitoring schedules are listed at the end of each sub-basin discussion. Sampling is listed in number of events per year.

1 – metals in water: see above table
2 – organics in water: herbicides and pesticides in the water
3 – metals in sediment: see above table
4 – organics in sediment: herbicides and pesticides in the sediment
5 – conventionals: see above table
6 – toxicity: *c. dubia* and *p. promelas*
7 – bacteria: Fecal Coliforms and E. Coli
8 – flow: measured from a fixed gage station or manually determined by meter
9 – field parameters: see above table

Pecos Sub Basin

Overview

Saltcedar plant before spraying has affected the plant.

The Pecos River begins in the mountains of North-Central New Mexico and flows along the eastern portion of the state. It is impounded at the New Mexico-Texas state line at Red Bluff Reservoir. Releases from Red Bluff Reservoir are made in accordance with the Pecos River Compact and the needs of the irrigation districts in Texas. The Pecos River flows through Texas in a southeasterly direction until it meets the Rio Grande just upstream of the International Amistad Dam. The river flows for 926 miles and drains approximately 38,300 square miles.

The CRP conducts its monitoring and assessment of the Pecos River from the Red Bluff Reservoir to the confluence with the Rio Grande. The river is divided into three designated stream segments: Segment 2312- Red Bluff Reservoir; Segment 2311- Upper Pecos River, downstream from Red Bluff Dam in Loving/Reeves County to a point immediately upstream of the confluence of Independence Creek in Crockett/Terrell county; and Segment 2310- Lower Pecos River, from a point immediately upstream of the confluence of Independence Creek to a point 0.4 miles downstream of the confluence of Painted Canyon in Val Verde County. There are 30 permitted wastewater dischargers that impact the Pecos Sub Basin. 29 are in segment 2311 and 1 in segment 2310

Saltcedar is a non-indigenous, invasive species that increases water salinity and evaporation of freshwater resources.

Highlights and Special Studies

The Pecos River Ecosystem Project is completing its third year of aerial application of herbicides to eradicate the saltcedar plant, *tamarisk sp.* from the banks of the Pecos River. Saltcedar was introduced into the United States as an ornamental plant, and in the case of the Pecos River, for bank stabilization. This invasive species is salt-tolerant and has out competed native vegetation. The Pecos River Ecosystem Project proposes to eliminate the plant and re-introduce native plants and grasses in its place.

From 1999-2001, 2,785 acres of saltcedar or 120 river miles have been chemically treated along the Pecos River. Current preliminary estimates on annual water use by saltcedar less water use by replacement native vegetation, averaged 5.8 acre-feet/year from September 2000 through August 8, 2001. Using this estimate, actual potential water savings from saltcedar acres treated in 1999-2001 is 16,153 acre-ft. Based on dollars spent for the control of saltcedar, the actual cost of this water savings was $31.35/acre-ft. Preliminary estimates of water quality indicate that treatment of saltcedar may decrease salinity of the water as well.

Saltcedar after effective eradication of the plant through spraying.

Segment Assessment

Segment 2312 is designated for high aquatic life use, fish consumption, and contact recreation. Data from the two monitoring stations show the designated uses for Red Bluff are being met. Fish consumption was not assessed. There is a nutrient enrichment concern for samples taken from station 13269- Texas/New Mexico state line to mid-lake. Elevated levels of nitrate-nitrogen in the water may lead to eutrophication or algal blooms.

Segment 2311 is designated for high aquatic life use, fish consumption, and contact recreation. Fish consumption was not assessed. Five monitoring stations were used to assess this segment. Station 13257- Pecos River at US 67 NE of Girvin showed depressed levels of dissolved oxygen. Natural geologic salt deposits increase the concentration of chloride, sulfate, and dissolved solids to levels that are ten times as high compared to typical surface waters. Studies conducted of the aquatic community by the Midland TNRCC Office indicate potential impair-

ment may exist in this segment and additional work is needed to fully address this issue. Overall, the aquatic life, contact recreation, and general uses are supported for segment 2311.

Segment 2310 in the lower Pecos River is designated as a public water supply, contact recreation, high aquatic life use, and for fish consumption. Fish consumption was not assessed at this time. This segment was on the 2000 Clean Water Act, Section 303(d) list for not meeting Texas Surface Water Quality Standards (TSWQS) for chloride, sulfate, and total dissolved solids. During the latest revision to the TSWQS, the standards for these three parameters were changed to reflect what is considered to be the ambient condition of the lower Pecos River based on data collected. Future data collection activities will help determine the impact of nonpoint sources that may affect salt levels.

Pecos River below Red Bluff Reservoir.

The latest assessment of this segment shows that the aquatic life use, contact recreation, and general uses are fully supported. This segment should be considered for de-listing for the impairment identified in the 2000 Section 303(d). The levels of dissolved salts in this segment do not meet surface water criteria for a public water supply. There is currently no city or community using this segment for drinking water.

Partners

Pecos Soil and Water Conservation District #213, Natural Resource Conservation Service- collects water quality samples in the Pecos area.

Texas A&M University- conducting Pecos River Ecosystem Project.

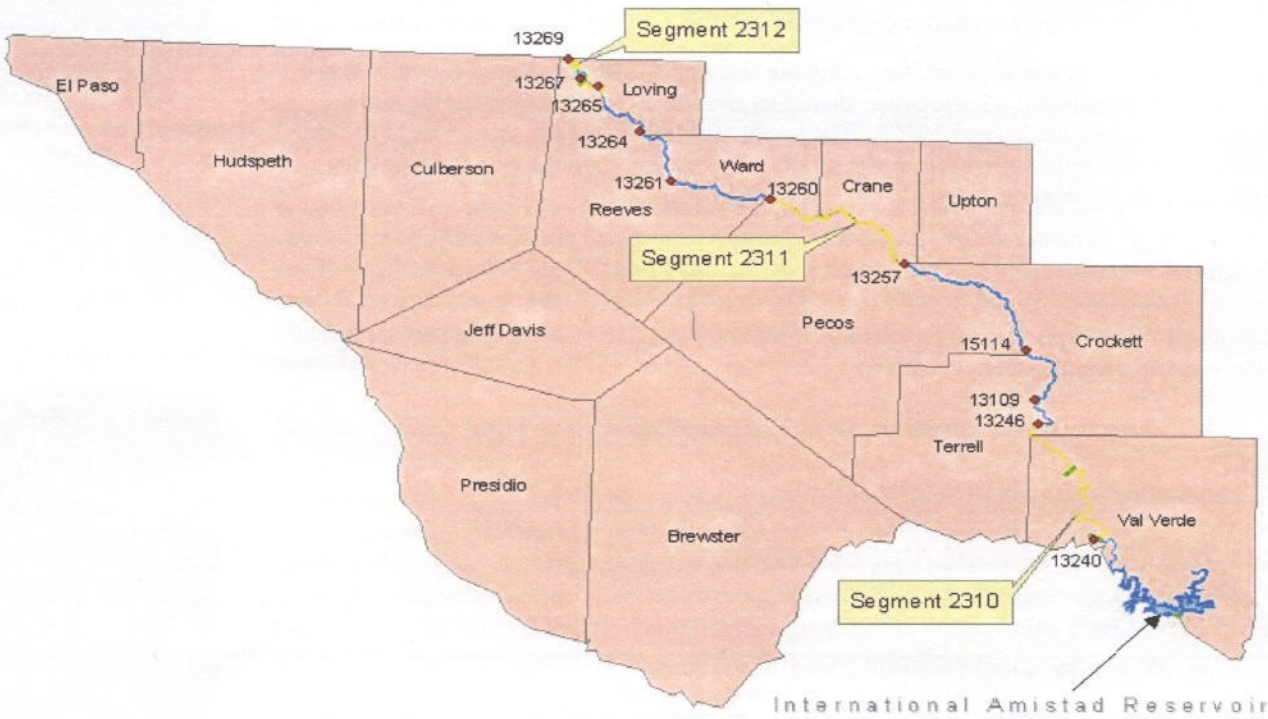
TNRCC Midland Office- collects samples in the Pecos River.

Pecos Sub Basin Monitoring Schedule

RIVER SEGMENT	LAT	LONG	STATION DESCRIPTION	STATION I.D#	1	2	3	5	7	8	9
2310	30.450	-101.732	INDEPENDENCE CREEK 0.5 MI. DOWNSTREAM FROM JOHN CHANDLER RANCH HEADQUARTERS	13109	2			4	4	4	4
2310	29.800	-101.450	PECOS RIVER AT GAGING STATION 7.4 MI. EAST OF LANGTRY, 15.0 MI. UPSTREAM FROM CONFLUENCE WITH RIO GRANDE	13240	8	8	8	8		8	8
2310	30.338	-101.717	PECOS RIVER 7.52 KM UPSTREAM FROM THE VAL VERDE/TERRELL/ CROCKETT COUNTY LINE CONVERGENCE	13246	2			4		4	4
2310	29.700	-101.360	PECOS RIVER 0.7 MI. DOWNSTREAM FROM US90W IN VAL VERDE COUNTY	16379	2			2	2	2	2
2311	31.079	-102.359	PECOS RIVER AT US 67 NE OF GIRVIN	13257				4	4	4	4
2311	31.366	-103.004	PECOS RIVER AT FM 1776 SW OF MONAHANS	13260				4	4	4	4
2311	31.872	-103.831	PECOS RIVER AT FM 652 BRIDGE NE OF ORLA	13265				4		4	4
2311	30.681	-101.776	PECOS RIVER 1.6 MI UPSTREAM OF US 290 BRIDGE, SE OF SHEFFIELD	15114				4	4	4	4
2311	31.670	-103.630	PECOS RIVER NEAR MENTONE, TEXAS	RG008				4	4	4	4
2311	31.440	-103.470	PECOS RIVER NEAR PECOS, TEXAS	RG009				4	4	4	4
2312	31.908	-103.917	RED BLUFF RESERVOIR ABOVE DAM, NORTH OF ORLA	13267	1		2	2	2		2
2312	31.994	-103.983	RED BLUFF RESERVOIR 1/2 MILE SOUTH OF TEXAS - NEW MEXICO BORDER	13269	1		2	2	2		2

See page 5 for column heading descriptions.

Pecos Sub Basin Map



Legend

- FY2002 Monitoring Stations

Impairment

- concern
- none
- Segment Boundaries
- Reservoir
- Counties

Upper Rio Grande Sub Basin

Overview

The Upper Rio Grande basin extends from the New Mexico-Texas state line downstream to the International Amistad Dam. The river flows through eight counties and consists of five designated river segments: 2314, 2308, 2307, 2306, and 2305 in order from upstream to downstream. The designated uses for each of these segments include contact recreation, high aquatic life use, and public water supply and fish consumption. However, the Rio Grande below International Dam (Segment 2308) is designated as non-contact recreation with limited aquatic life use.

The Rio Grande as it flows through Big Bend National Park.

As the Rio Grande flows into Texas from New Mexico, the cities of El Paso and Ciudad Juarez have an immediate impact on the river. El Paso/Ciudad Juarez makes up the largest population of any sister cities in Texas with an estimated population of over 2 million people. El Paso/ Ciudad Juarez relies on the Rio Grande to supply water for agriculture; it also provides 45% of the city of El Paso's drinking water supply. Other communities downstream utilize the river for agriculture, recreation, and fish consumption.
There are 91 permitted wastewater dischargers that impact the Upper Sub Basin. 65 of the permits are in segment 2308, 19 are in segment 2307, and 7 in segment 2306.

Highlights and Special Studies

The special study to assess chemical and microbial contamination in the Upper Rio Grande is in its third year. El Paso Community College, under the Department of Biology (through Dr. Maria Alvarez), continues to collect data in the El Paso area. Arizona State University has been collecting samples this past year to analyze river water for cryptosporidium. CRP will continue to assist these efforts and provide an update on the information collected at a later date.

The Texas Clean Rivers Program staff actively participates in the Paso del Norte Watershed Council and in the Rio Grande Citizens' Forum. The Watershed Council consists of individuals representing southern New Mexico, far west Texas, and northern Chihuahua, Mexico. Current work involves the creation of an Internet website to disseminate information and grant development. The Watershed Council was organized to address issues involving the Rio Grande/Rio Bravo and provide input on watershed improvement projects. The Rio Grande Citizens' Forum provides a forum for the continued two-way exchange of information between the USIBWC and the general public, environmental groups, irrigation districts, and municipalities. CRP staff has given presentations on the Clean Rivers Program at both of these forums.

Other special studies (proposed) include a study of salinity levels in the Rio Grande from the El Paso area downstream to International Amistad Reservoir. This study has been proposed by Texas A&M University with assistance from the USIBWC Clean Rivers Program. A second study is being proposed to assess the concentration of trace elements in the Big Bend National Park area due to runoff from abandoned mine sites. This study may also include additional work on the Mexican side in the protected areas known as the Maderas del Carmen and the Cañon de Santa Elena.

The Rio Grande as it enters Texas between El Paso and Sunland Park, NM.

Segment Assessment

Segment 2314 extends from the New Mexico-Texas state line downstream to International Dam in El Paso County. Designated uses for this segment include high aquatic life use, public water supply, fish consumption, and contact recreation. Irrigated agriculture, some industry, and municipal wastewater treatment effluents impact this area. Water deliveries to Mexico occur in this

segment at International Dam. The United States diverts waters belonging to the U.S. at the American Dam that flow into the Rio Grande American Canal Extension (RGACE).

Canalized section of the Rio Grande in segment 2308

Data collected shows that aquatic life use, public water supply, and general uses are fully supported. Contact recreation is not being met due to elevated levels of fecal coliform and E. coli bacteria. This segment overlaps for about 16 miles with New Mexico's Segment 2101-The main stem of the Rio Grande from the USIBWC sampling station above American Dam (Courchesne Bridge) upstream to one mile below Percha Dam. In November 2001, the New Mexico Water Quality Control Board during its triennial review of segment 2101 revised the standard for fecal coliform from 1,000 CFU/100ml geometric mean and 2,000 CFU/100ml single grab to be 200 CFU/100ml geometric mean and 400 CFU/100ml single grab. The change made by New Mexico brings more consistency to this reach of the Rio Grande and will help address concerns for bacteria by requiring lower effluent limits for fecal coliform from permitted facilities. Other concerns in this reach include increased levels of chlorophyll-a and ammonia. Increased nutrient levels may lead to algal growth and affect aquatic life.

Segment 2308 flows through the sister cities of El Paso and Ciudad Juarez. The upper portion of this segment is cement-lined to prevent meandering and has very little water throughout the year because of the diversions made by the United States and Mexico in Segment 2314. This segment is designated as low aquatic life use, non-contact recreation, fish consumption, and as a public water supply. The fish consumption and public water supply uses were not assessed in this segment.

The designated uses of low aquatic life use, non-contact recreation, and general criteria for this segment were fully supporting. There are nutrient enrichment concerns due to elevated concentrations of ammonia, orthophosphorus and total phosphorus.

Segment 2307 extends from below Riverside Diversion Dam in El Paso County and flows over 200 miles downstream to the confluence with the Rio Conchos in Presidio County. This segment is designated for contact recreation, public water supply, high aquatic life use, and fish consumption. The fish consumption use was not assessed. This segment is heavily influenced by return flows from agriculture and municipal effluent discharges from the United States and Mexico just downstream of El Paso and Ciudad Juarez.

This segment did not meet the general use criteria for chloride and total dissolved solids. A portion of the upper segment did not support contact recreation because of high fecal coliform concentrations. Public water supply criteria of chloride, sulfate, and total dissolved solids were not met in this segment. The data also show that nutrient enrichment concerns exist in the upper portion of the segment.

Segment 2306 begins just downstream of the confluence with the Rio Conchos and flows through the Big Bend National Park area and is impounded at the International Amistad Reservoir. The major influences to this segment occur in the upper portion near the cities of Presidio, Texas and Ojinaga, Chihuahua. The designated uses for this segment include contact recreation, public water supply, fish consumption, and high aquatic life use. This segment was on the 2000 Clean Water Act (CWA), Section 303(d) for impairment due to ambient toxicity in water. Because there was insufficient data to evaluate changes in water quality, this segment will be included on the 2002 CWA 303(d) list for ambient toxicity in water. Ambient toxicity is determined by exposing selected species to the source water and determining if it has adverse effects on the species, such as inhibiting growth, preventing reproduction, or is lethal.

The Rio Grande as it flows through the forgotten river stretch.

The aquatic life, fish consumption and general uses for this segment are fully supported. Segment 2306 did not meet the criteria to support contact recreation and public water supply due to elevated levels of fecal coliform, chloride, sulfate, and total dissolved solids. Increased chloro-

phyll-a is a concern as this may lead to excessive algal growth. The lower portion of Segment 2306 flows through the Big Bend National Park area with small scale farming and ranching occurring on both sides of the border.

Segment 2305 flows from Amistad Dam in Val Verde County to a point 1.8 km downstream of the confluence of Ramsey Canyon on the Rio Grande Arm and to a point 0.7 km downstream of the confluence of Painted Canyon on the Pecos River Arm in Val Verde County, and to a point 0.6 km downstream of the confluence of Little Satan Creek on the Devils River Arm in Val Verde County, up to the normal pool elevation of 1117 feet (impounds the Rio Grande). The designated uses for this segment include contact recreation, public water supply, high aquatic life use, and fish consumption.

Low water levels in Amistad Reservoir.

Four stations were monitored at the International Amistad Reservoir for assessment purposes. The aquatic life use, contact recreation, public water supply, fish consumption, and general uses are fully supported. There is a nutrient enrichment concern due to elevated levels of total phosphorus at station 13211, Amistad Reservoir at International Boundary Buoy #1 adjacent to the dam.

Partners

USIBWC American Dam Office- collects water quality samples in the El Paso area.

University of Texas at El Paso- collects water quality samples in the El Paso area.

El Paso Community College- conducting special study to include bacteria (fecal coliform and E. coli.) in the El Paso/Hudspeth County area.

El Paso Water Utilities- analyzes samples for CRP partners in the El Paso area.

USIBWC Presidio Office- collects samples in the Rio Grande around Presidio.

Big Bend National Park Service- collects water quality samples in the Big Bend region.

USIBWC Amistad Field Office- collects water quality samples in the International Amistad Reservoir.

TNRCC El Paso Field Office- collects water quality samples in the Upper Rio Grande Basin.

International Amistad Reservoir is at 31% of conservation capacity.

Upper Rio Grande Monitoring Schedule

RIVER SEGMENT	LAT	LONG	STATION DESCRIPTION	STATION I.D#	SC1/ SC2	1	2	3	4	5	6	7	8	9
2305	29.460	-101.060	AMISTAD RESERVOIR AT BUOY #1	13835	WC/FO		2			4		4		4
2305	29.625	-101.251	AMISTAD RESERVOIR RIO GRANDE ARM AT BUOY 28	15892	WC/FO			2		4		4		4
2305	29.601	-100.976	AMISTAD RESERVOIR DEVILS RIVER ARM AT BUOY DRP	15893	WC/FO			2		4		4		4
2306	29.780	-101.760	RIO GRANDE AT FOSTER RANCH WEST OF LANGTRY OFF HWY 90 W	13223	WC/FO			2	2	2		2	2	2
2306	29.780	-101.760	RIO GRANDE AT FOSTER RANCH WEST OF LANGTRY OFF HWY 90 W	13223	WC/GS	8	8	8		8			8	8
2306	29.450	-102.830	RIO GRANDE AT FM 2627 (GERSTACKER BRIDGE) BELOW BIG BEND	13225	WC/FO					4		4	4	4
2306	29.167	-103.554	RIO GRANDE AT THE MOUTH OF SANTA ELENA CANYON	13228	IB/BB			1	1	8		8	8	8
2306	29.167	-103.554	RIO GRANDE AT THE MOUTH OF SANTA ELENA CANYON	13228	WC/FO			1	1	4		4	4	4
2306	29.533	-104.350	RIO GRANDE BELOW RIO CONCHOS CONFLUENCE NEAR PRESIDIO	13229	IB/IB					8		8	8	8
2306	29.533	-104.350	RIO GRANDE BELOW RIO CONCHOS CONFLUENCE NEAR PRESIDIO	13229	WC/FO	1	1	1	1	4	2	4		4
2306	29.533	-104.350	RIO GRANDE BELOW RIO CONCHOS CONFLUENCE NEAR PRESIDIO	13229	WC/GS	8	8	8		8			8	8
2306	29.180	-103.060	RIO GRANDE AT RIO GRANDE VILLAGE IN BIG BEND NATIONAL PARK	16730	IB/BB			1	1	8		8	8	8
2306	29.550	-104.400	RIO GRANDE AT PRESIDIO RAILROAD BRIDGE	17000	IB/IB							8	8	8
2306	29.550	-104.380	RIO GRANDE AT PRESIDIO OJINAGA VEHICLE BRIDGE	17001	IB/IB							8	8	8
2307	29.604	-104.467	RIO GRANDE 2.4 MI. UPSTREAM FROM RIO CONCHOS CONFLUENCE	13230	IB/IB					8		8	8	8
2307	29.604	-104.467	RIO GRANDE 2.4 MI. UPSTREAM FROM RIO CONCHOS CONFLUENCE	13230	WC/FO	1	1			4		4	4	4
2307	31.025	-105.594	RIO GRANDE AT NEELY CANYON, SOUTH OF FORT QUITMAN	13232	WC/FO			1	1	4		4	4	4
2307	31.430	-106.142	RIO GRANDE AT GUADALUPE POINT OF ENTRY BRIDGE AT FM 1109 WEST OF TORNILLO	15704	IB/UE	2		2		4		4	4	4

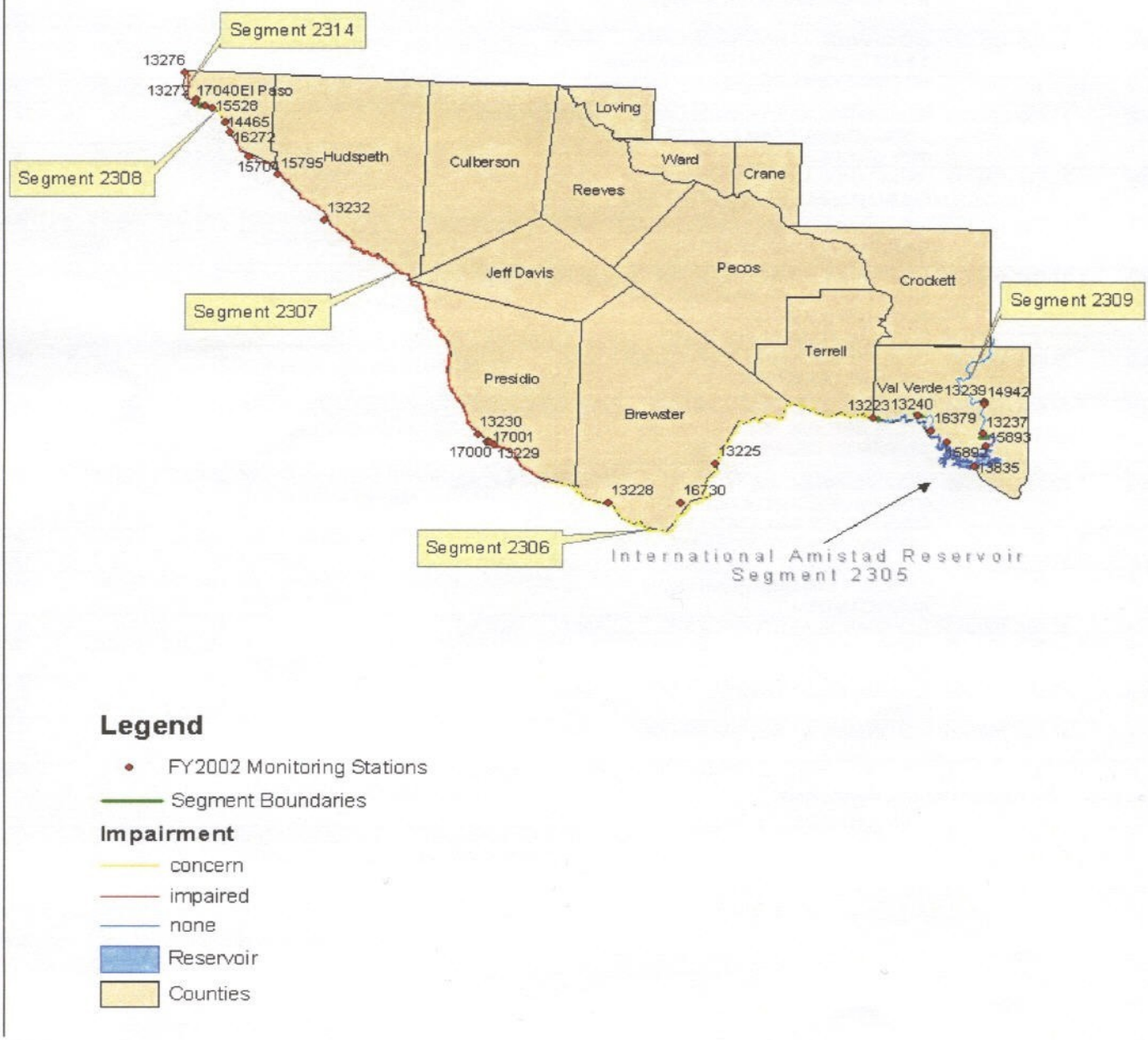
See page 5 for column heading descriptions

Upper Rio Grande Monitoring Schedule

RIVER SEGMENT	LAT	LONG	STATION DESCRIPTION	STATION I.D#	SC1/ SC2	1	2	3	4	5	6	7	8	9
2307	31.317	-105.936	RIO GRANDE AT ALAMO CONTROL STRUCTURE, 9.7KM UPSTREAM OF FORT HANCOCK PORT OF ENTRY	15795	IB/IB					6		6	6	6
2307	31.317	-105.936	RIO GRANDE AT ALAMO CONTROL STRUCTURE, 9.7KM UPSTREAM OF FORT HANCOCK PORT OF ENTRY	15795	WC/FO	2	2	2	2	6	2	6	6	6
2307	31.587	-106.289	RIO GRANDE AT SAN ELIZARIO, 500M UPSTREAM OF CAPOMO ROAD END OF PAVEMENT AND 10.2 KM DOWN-STREAM OF ZARAGOSA INTERNA-TIONAL BRIDGE	16272	IB/UE					4		4	4	4
2308	31.658	-106.329	RIO GRANDE AT RIVERSIDE CANAL 1.8 KM DOWNSTREAM OF ZARAGOSA INTERNATIONAL BRIDGE	14465	WC/FO					2		2	2	2
2308	31.658	-106.329	RIO GRANDE AT RIVERSIDE CANAL 1.8KM DOWNSTREAM OF ZARAGOSA INT'L BRIDGE	14465	IB/IB					12		12	4	12
2308	31.753	-106.419	RIO GRANDE 1.3 KM DOWNSTREAM FROM HASKELL ST. WWTP OUTFALL	15528	IB/IB					12		12	4	12
2308	31.753	-106.419	RIO GRANDE 1.3 KM DOWNSTREAM FROM HASKELL ST. WWTP OUTFALL	15528	WC/FO	1	1			2		2	2	2
2308	31.760	-106.470	RIO GRANDE 2.4KM UPSTREAM FROM HASKELL ST. WWTP OUTFALL, SOUTH OF BOWIE HIGH SCHOOL FOOTBAL STADIUM IN EL PASO	15529	IB/IB					12		12	4	12
2309	29.683	-101.000	DEVILS RIVER AT PAFFORD CROSS-ING NEAR COMSTOCK	13237	WC/FO					4		4	4	4
2309	29.900	-100.998	DEVILS RIVER ON DEVILS RIVER STATE NATURAL AREA 1.7 KM UP-STREAM OF DOLAN CREEK	13239	WC/FO					4		4	4	4
2309	29.886	-100.992	DOLAN SPRINGS 100 YDS. UP-STREAM OF CONFLUENCE WITH DEVILS RIVER IMMEDIATELY UP-STREAM OF ROAD CROSSING	14942	WC/FO					4		4	4	4
2314	31.803	-106.540	RIO GRANDE AT COURCHESNE BRIDGE, 1.7 MI UPSTREAM FROM AMERICAN DAM	13272	IB/IB					12		12	12	12
2314	31.803	-106.540	RIO GRANDE AT COURCHESNE BRIDGE, 1.7 MI UPSTREAM FROM AMERICAN DAM	13272	WC/FO	1	1			4		4	4	4
2314	31.981	-106.631	RIO GRANDE UPSTREAM OF EAST DRAIN	13276	WC/FO	2	2			4		4	4	4
2314	31.780	-106.550	RIO GRANDE AT ANAPRA BRIDGE	17040	IB/IB							4		4

See page 5 for column heading descriptions

Upper Rio Grande Sub Basin Map



Legend

- FY2002 Monitoring Stations
- Segment Boundaries

Impairment

- concern
- impaired
- none
- Reservoir
- Counties

Middle Rio Grande Sub Basin

Overview

The Middle Rio Grande is the portion of the Rio Grande below the International Amistad Reservoir downstream to the International Falcon Reservoir. This section stretches for about 303 miles (488 km) along the border of Val Verde, Kinney, Maverick, Webb, and Zapata counties with Mexico. This area has experienced tremendous population growth from industrial and manufacturing growth for trade with Mexico and tourism into Mexico. The 2000 census estimates the population in this region at over 300,000 people, over half of whom reside in Laredo.

Water stored in Falcon Reservoir belongs to both the United States and Mexico. Besides conserving and protecting water resources, Falcon Reservoir also provides boating, fishing, and electric power generation. Due to the drought conditions in this region, Falcon Reservoir is at 13.6 percent of the conservation capacity of 3897 million cubic meters of water. The U.S. is at 16.5 percent of its conservation capacity and Mexico is at 9.7 percent of its conservation capacity. (Source: U.S. IBWC web page at www. ibwc.state.gov)

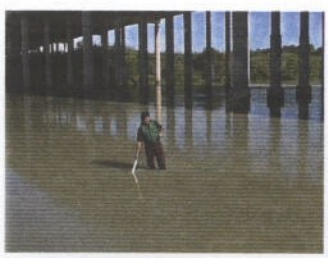
The Lower Rio Grande is divided into three segments: Segment 2304 Rio Grande below Amistad Reservoir – From a point just below International Amistad Reservoir in Val Verde County to the confluence of the Arroyo Salado in Zapata County, Segment 2303 International Falcon Reservoir – From the confluence of the Arroyo Salado in Zapata County to Falcon Dam in Starr County, and Segment 2313 San Felipe Creek – From a point 2.5 miles (4.0 km) upstream of US 90 in Val Verde County to the confluence with the Rio Grande. Segment 2304 contains 18 monitoring stations along 226 miles (364 km), Segment 2303 contains 4 monitoring stations for 68 miles (110 km), and Segment 2313 contains 3 monitoring stations along 9 miles (14 km).
There are 66 permitted wastewater dischargers that impact the Middle Sub Basin. 2 of the permitted dischargers are in segment 2303, 64 are in segment 2304, and 4 are in segment 2313.

Texas Department of Health has determined that the fish from the Rio Grande in Laredo is safe for human consumption.

Highlights and Special Studies

The bi-national study to determine the water quality in the Laredo/Nuevo Laredo reach has been submitted for final review on March 8, 2002. This report should be available soon.

Because of the increased growth in the area, concerns about increased degradation of water quality in the Rio Grande are being heavily monitored. To address these concerns, the U.S. and Mexico created an agreement in accordance with IBWC Minute No. 289 to solve environmental problems in the border area. In 1993, a study was conducted at numerous sites to determine contamination from increased industrial and agricultural activity. This study revealed that the fish used in the screening contained high levels of chemicals that have the potential of causing health concerns. In 1995 through 1997, the second phase of the Rio Grande/Rio Bravo Toxic Substances Study was conducted in areas identified as having concerns for contamination based on the data collected in 1993. In 1999, the TNRCC asked the Texas Department of Health (TDH) to evaluate the potential health risks from consuming fish caught in the Rio Grande. Two sites were chosen for the initial phase of the study: one site upstream of Laredo, Texas and one downstream of Laredo. Various fish species caught at the two sites were analyzed for metals and organics, including arsenic, pesticides, and PCB's. The data from the fish collection were then compared to standards used by the U.S. Environmental Protection Agency and the U.S. Department of Health and Human Services. The data was also analyzed for cumulative effects and for the effects in children. The study showed the presence of some chemicals, but in quantities lower than the standards for human health concern. The TDH concluded that consuming fish from the Rio Grande in the vicinity of Laredo, Texas poses no apparent public health hazard. (reference: Texas Department of Health report dated December 20, 2001)



Sampling in the Rio Grande in Laredo.

San Felipe Creek outside of Del Rio near the confluence with the Rio Grande.

Segment Assessment

Segment 2304 is designated as a freshwater stream with contact recreation use, aquatic habitat use, fish consumption, and as a public water supply. The public water supply, fish consumption and general use are fully supported in the segment, but is not supporting in contact recreation use.

This segment was on the 2000 303(d) list for an impairment due to ambient toxicity in water downstream of Del Rio. Because there were insufficient data to evaluate the changes in water quality, this segment will be included in the 2002 303(d) list as impaired due to ambient toxicity in water.

This segment shows that it is not supporting its contact recreation use due to high levels of bacteria downstream of highway 277 and downstream of International Bridge II all the way to the segment boundary. The source of the bacterial contamination comes from multiple municipal point sources and sources outside of the state jurisdiction. This segment also has a partially supporting finding for aquatic life use due to depressed dissolved oxygen from Amistad Dam to just upstream of highway 277. Possible sources for this concern come from hydromodification and upstream impoundment of the water.

Concerns in segment 2304 show high phosphorus content from 10 miles upstream of Del Rio to 4.5 miles downstream of highway 277. There is also some concern for high ammonia levels downstream of International Bridge II. Chronic toxicity tests downstream of highway 277 also show a concern but there is not enough data to properly assess that parameter. Possible sources for this concern are municipal point sources, sources outside of state jurisdiction, and urban runoff and storm sewers.

International Falcon Reservoir is at 13.6% of conservancy.

Segment 2303 is designated as a reservoir with contact recreation use, aquatic habitat use, and as a public water supply. The public water supply and general uses are fully supported. The aquatic life, contact recreation, and fish consumption use were not assessed. This segment was on the 2000 303(d) as an impaired water body because of consistently high chlorides and total dissolved solids, but has been removed for the 2002 303(d) list as not impaired.

There is limited data for this segment but greater monitoring is being performed now. This segment has a concern for contact recreation due to the mean levels of bacteria exceeding the standards, given the limited amount of data for assessment. We were unable to properly assess for phosphorus due to too little data, but phosphorus levels exceeded the criteria in the reservoir around the Zapata Water Treatment Plant (WTP) intake. It also showed some concern for algal growth in the reservoir.

Water impounded behind Falcon Reservoir.

Segment 2313 is classified as a freshwater stream with contact recreation use, aquatic habitat use, and as a public water supply. The aquatic life, contact recreation, public water supply and general uses are fully supported. The fish consumption use was not assessed.

This segment is a high quality spring that surfaces in Del Rio and provides the city with a superior quality water supply. Typical total dissolved solids (TDS) values from the spring average only 250 parts per million. The Blue Hole spring in the center of Del Rio produces 90 million gallons of pure water daily. This segment shows no impairments or concerns. There is some bacterial contamination as the spring flows through the city

Partners

USIBWC Amistad office – collects field data, flow, and water samples in segment 2304

USIBWC Falcon office – collects field data and water samples in Falcon Reservoir (Segment 2303)

City of Del Rio – collects field data, flow, and water samples in San Felipe Creek (Segment 2313)

City of Laredo County Health and Environmental Engineering Department – collects samples for the presence of indicator bacteria at 8 sites around Laredo, Texas and Manadas Creek.

Rio Grande International Study Center – collects field data and water samples at 7 sites in segment 2304 around Laredo, TX

TNRCC – collects field data and water samples in Segment 2304

Middle Rio Grande Monitoring Schedule

RIVER SEGMENT	LAT	LONG	STATION DESCRIPTION	STATION I.D#	SC1/ SC2	1	2	3	5	6	7	8	9
2303	26.864	-99.308	FALCON LAKE AT INTERNATIONAL BOUNDARY MONUMENT #1	13189	IB/IB				4		4		4
2303	27.043	-99.444	FALCON RESERVOIR AT SAN YGNACIO WTP INTAKE, 350M DWNSTR FROM US 83 BRIDGE	15818	IB/RN	2		2	2	2	2		2
2304	27.580	-99.500	MANADAS CREEK AT FM 1472 NORTH OF LAREDO	13116	IB/LE	4	4	4	4		4	4	4
2304	27.404	-99.487	RIO GRANDE AT PIPELINE CROSSING, 13.9KM BELOW LAREDO	13196	IB/LA						12		
2304	27.404	-99.487	RIO GRANDE AT PIPELINE CROSSING, 13.9KM BELOW LAREDO	13196	IB/RN					2			
2304	27.404	-99.487	RIO GRANDE AT PIPELINE CROSSING, 13.9KM BELOW LAREDO	13196	WC/GS	10	10	10	10			10	10
2304	27.500	-99.510	RIO GRANDE 30 METERS UPSTREAM OF US 81 BRIDGE (CONVENT AVENUE) IN LAREDO	13201	IB/LA						12		
2304	27.523	-99.524	RIO GRANDE LAREDO WATER TREATMENT PLANT PUMP INTAKE	13202	IB/LA						12		
2304	27.523	-99.524	RIO GRANDE LAREDO WATER TREATMENT PLANT PUMP INTAKE	13202	IB/RN	4		4	4	4	4	4	4
2304	28.663	-100.500	RIO GRANDE NEAR IRRIGATION CANAL LATERAL 50 US 277 BRIDGE IN EAGLE PASS	13205	IB/IB				8		8	8	8
2304	28.663	-100.500	RIO GRANDE NEAR IRRIGATION CANAL LATERAL 50 US 277 BRIDGE IN EAGLE PASS	13205	WC/FO	4		2	4		4	4	4
2304	28.681	-100.505	RIO GRANDE US 277 AT EAGLE PASS	13206	IB/IB				2		2	2	2
2304	28.681	-100.505	RIO GRANDE US 277 AT EAGLE PASS	13206	WC/FO	2			2		2	2	2

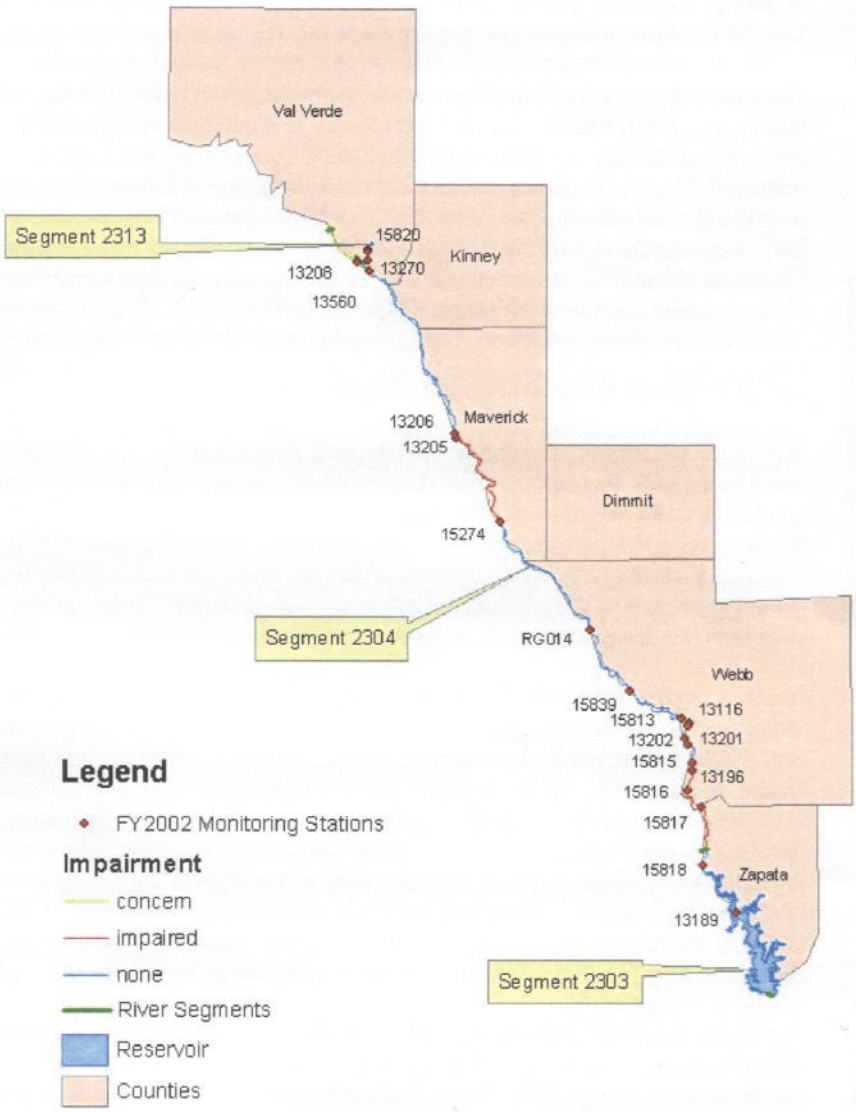
See page 5 for column heading descriptions

Middle Rio Grande Monitoring Schedule

RIVER SEGMENT	LAT	LONG	STATION DESCRIPTION	STATION I.D#	SC1/ SC2	1	2	3	4	5	6	7	8	9
2304	29.326	-100.931	RIO GRANDE 12.8 MI. BELOW AMISTAD DAM, NEAR GAGE, 340 M UPSTREAM OF US 277 BRIDGE IN DEL RIO	13208	IB/IB					2		2	2	2
2304	29.326	-100.931	RIO GRANDE 12.8 MI. BELOW AMISTAD DAM, NEAR GAGE, 340 M UPSTREAM OF US 277 BRIDGE IN DEL RIO	13208	WC/FO					4		4	4	4
2304	29.292	-100.876	RIO GRANDE, 4.5 MI. DOWNSTREAM OF DEL RIO AT MOODY RANCH	13560	IB/IB					8		8	8	8
2304	29.292	-100.876	RIO GRANDE, 4.5 MI. DOWNSTREAM OF DEL RIO AT MOODY RANCH	13560	WC/FO			2		4		4	4	4
2304	28.346	-100.310	RIO GRANDE AT IBWC WEIR DAM 6 MI. SOUTH OF EL INDIO, 0.6 MI. DOWN-STREAM OF CUERVO CREEK	15274	WC/FO					2		2	2	2
2304	29.424	-101.041	RIO GRANDE 3.4 KM DOWNSTREAM OF AMISTAD DAM ABOVE WEIR DAM (IBWC GAGE #08-4509.00)	15340	WC/FO					2		2	2	2
2304	29.424	-101.041	RIO GRANDE 3.4 KM DOWNSTREAM OF AMISTAD DAM ABOVE WEIR DAM (IBWC GAGE #08-4509.00)	15340	WC/GS	6	6	6		6			6	6
2304	27.570	-99.510	RIO GRANDE AT CP&L POWER PLANT INTAKE	15813	IB/LA							12		
2304	27.499	-99.507	RIO GRANDE AT INTERNATIONAL BRIDGE #2 (EAST BRIDGE) IN LAREDO	15814	IB/LA							12		
2304	27.499	-99.507	RIO GRANDE AT INTERNATIONAL BRIDGE #2 (EAST BRIDGE) IN LAREDO	15814	IB/RN					4	2	4	4	4
2304	27.430	-99.490	RIO GRANDE AT MASTERSON RD.IN LAREDO,9.9KM DOWNSTREAM OF INT'L BRIDGE#1(WEST BRIDGE),DWNSTR SOUTHSIDE WWTP AND UPSTR NUEVO LAREDO WWTP	15815	IB/LA							12		
2304	27.330	-99.510	RIO GRANDE AT RIO BRAVO, 0.5KM DWNSTR OF THE COMMUNITY OF EL CENIZO	15816	IB/LA							12		
2304	27.265	-99.454	RIO GRANDE AT WEBB/ZAPATA COUNTY LINE	15817	IB/RN			2	2	12	2	12	12	12
2304	27.702	-99.754	RIO GRANDE AT THE COLOMBIA BRIDGE, 2.7 KM UPSTREAM OF THE DOLORES PUMP STATION, 45.1 KM UPSTREAM OF THE LAREDO WTP IN-TAKE	15839	IB/LA							12		
2304	27.702	-99.754	RIO GRANDE AT THE COLOMBIA BRIDGE, 2.7 KM UPSTREAM OF THE DOLORES PUMP STATION, 45.1 KM UPSTREAM OF THE LAREDO WTP IN-TAKE	15839	IB/RN					4	2	4	4	4
2304	27.597	-99.533	RIO GRANDE BELOW WORLD TRADE BRIDGE	RG005	IB/RN	4		4	2	4		4	4	4
2304	27.933	-99.924	RIO GRANDE AT APACHE RANCH	RG014	IB/IB					4		4	4	4
2313	29.331	-100.889	SAN FELIPE CREEK AT GUYLER CON-FLUENCE WITH THE RIO GRANDE	13270	IB/DR					2		2	2	2
2313	29.331	-100.889	SAN FELIPE CREEK AT GUYLER CON-FLUENCE WITH THE RIO GRANDE	13270	WC/FO				2	2		2	2	2
2313	29.373	-100.885	SAN FELIPE CREEK AT WEST SPRINGS, NEAR WEST WELLS IN DEL RIO (IN WEST CHANNEL OF CREEK, 0.5KM UP-STREAM FROM US90 BRIDGE)	15820	IB/DR					12		12	12	12
2313	29.369	-100.884	SAN FELIPE CREEK AT BLUE HOLE FLOOD GATES, IN PARK BETWEEN US90 BRIDGE AND SOUTHERN PACIFIC RR BRIDGE IN DEL RIO (50M DWNSTR	15821	IB/DR					2		2	2	2

See page 5 for column heading descriptions

Middle Rio Grande Sub Basin Map



Lower Rio Grande Sub Basin

Overview

The Lower Rio Grande is the portion of the Rio Grande below the International Falcon Reservoir downstream to the confluence with the Gulf of Mexico. This section stretches for about 280 miles (450 km) along the border of Starr, Hidalgo, and Cameron counties with Mexico. The primary industry in this area is agriculture producing fruits and vegetable as well as cotton and sorghum. Agricultural irrigation accounts for over 80 percent of the water used in this region. Due to poor groundwater quality, surface water is the only source of water for drinking and irrigation. The 2000 census estimates the population in this region at over 958,000 people.

The Lower Rio Grande is divided into two segments: Segment 2302 Rio Grande below Falcon Reservoir – From Falcon Dam in Starr County to a point 6.7 miles (10.8 km) downstream of the International Bridge in Cameron County, and Segment 2301 Rio Grande Tidal – From a point 6.7 miles (10.8 km) downstream of the International Bridge in Cameron County to the confluence with the Gulf of Mexico. Segment 2302 contains 12 monitoring stations along 231 miles (371 km). Segment 2301 only contains 1 monitoring station for 49 miles (79 km).
There are 126 permitted wastewater dischargers that impact the Lower Sub Basin, all of which are in segment 2302.

Mechanical removal of Water Hyacinth is slowly making progress with the cooperation of several agencies.

Highlights and Special Studies

One of the big discussions during the past year throughout the Rio Grande was the water debt owed to the U.S. by Mexico. This discussion and situation has arisen because of the water shortage and drought situation that has plagued this area for the past 10 years. Water storage levels in the international reservoirs are low. The reservoirs within the interior of Mexico are also low. Unless this region gets a large amount of rainfall upstream of the reservoirs, the outlook for the coming year will be the same as the previous year. Weather Bureau predictions do not see any change in the drought situation as they are expecting lower than normal rainfall.

Another issue in the Lower Rio Grande is the invasive weeds, Hydrilla and Water Hyacinth. These two plants are reducing the amount of water in the river through increased evapotranspiration and increased water consumption. Several efforts to remove these plants are underway. During the past year, the Texas Parks and Wildlife Department (TPWD) released 25 grass carp with radio transmitters in a pilot project to determine their migration patterns. These carp feed on the Hydrilla plant and can reduce the plant's numbers. The initial phase of this project is to track the movements of the carp to insure that they will remain in the Lower Rio Grande and not get into irrigation channels where they could do more damage than good. The initial reports show that they are remaining in the Rio Grande. If given approval, the next step is to release a larger number of carp (16,000 - 42,000) to monitor their ability to remove the Hydrilla plant.

Water Hyacinth choking the Rio Grande near Matamoros.

The Water Hyacinth stays on the surface of the water, preventing transportation along the river. Efforts to remove their population last year involved the use of three large harvesting boats that cut through the overgrowth. Through the efforts of the TPWD and the financial support of other government agencies, the river has been cleared of several miles of Hyacinth and efforts will continue down the river. The United States Bureau of Reclamation (BOR) has plans to use a weevil that feeds on the Hyacinth as a control effort. The BOR has been releasing the weevil in controlled amounts to prevent overpopulation of the insect. To date, they have released about 60,000 of the Hyacinth destroying insects. It has also been noticed that a fly species is making use of the Hyacinth and may provide some welcome assistance in the control of the invasive weed.
With the intensity of the above issues, another concern is the closing of the mouth of the river,

which has become blocked by a sandbar. The USIBWC is seeking a permit to conduct periodic maintenance to keep the mouth open.

There is a proposal by a private firm in the works to build a large-scale desalination plant to use groundwater in an effort to alleviate some of the water usage in the river. Initial estimates by the firm place the cost of the water produced in this plant at comparable levels to surface water production. Some of the ponds and bays in the this region contains levels of salts that are the same as the concentrate waste produced by this plant, providing a place to dispose of the plant's waste without adversely impacting the environment.

Hydrilla in the Rio Grande below Falcon Reservoir.

Segment Assessment

Segment 2302 is designated as a freshwater stream with contact recreation use, aquatic habitat use, and as a public water supply. The aquatic life, public water supply, fish consumption, and general use are fully supporting in the segment.

The only impairment within this segment occurs at around Pharr International Bridge to the Santa Ana Wildlife Refuge because of high bacterial contamination. The source for the bacterial contamination comes from multiple municipal point sources from the United States and Mexico. Concerns within the segment are high phosphorus levels downstream of Falcon Dam to Fronton. Pharr Bridge also shows concerns for elevated levels of chlorides, sulfates, and total dissolved solids. Possible sources for these concerns are agricultural runoff, irrigation return, hydromodification, and modified flow conditions.

Segment 2301 is designated as a tidal stream with contact recreation use and aquatic habitat use. The aquatic life, contact recreation, and general uses are fully supported. The fish consumption use was not assessed.

There is only one station collected in this segment, station 13176 (Rio Grande tidal at state highway 4 near Boca Chica.) This station shows a concern for excessive algal growth as determined by high chlorophyll-a concentrations. Bacterial contamination is supported but shows high counts periodically.

Partners

City of Brownsville – collects field data and water samples in segment 2301 and 2302

USIBWC Mercedes office – collects field data and water samples in Segment 2302

TNRCC Harlingen Field Office – collects field data and water samples in Segment 2302

USGS – collects field data in Segment 2302

Mouth of the Rio Grande taken from the edge of the Gulf of Mexico.

Lower Rio Grande Monitoring Schedule

RIVER SEGMENT	LAT	LONG	STATION DESCRIPTION	STATION I.D#	SC1/ SC2	1	2	3	5	7	8	9
2301	25.962	-97.208	RIO GRANDE TIDAL AT SH 4 NEAR BOCA CHICA	13176	IB/BN				4	4		4
2301	25.962	-97.208	RIO GRANDE TIDAL AT SH 4 NEAR BOCA CHICA	13176	WC/FO				4	4		4
2302	26.030	-97.720	RIO GRANDE 6.3 KM DOWNSTREAM FROM SAN BENITO PUMPING PLANT	10249	WC/FO				4	4	4	4
2302	26.362	-98.787	ARROYO LOS OLMOS BRIDGE ON US 83 SOUTH OF RIO GRANDE CITY	13103	WC/FO				2	2	2	2
2302	25.876	-97.454	RIO GRANDE EL JARDIN PUMP STATION, AT LOW WATER DAM 300 FT. BELOW INTAKE	13177	IB/IB				8	8	8	8
2302	25.876	-97.454	RIO GRANDE EL JARDIN PUMP STATION, AT LOW WATER DAM 300 FT. BELOW INTAKE	13177	WC/FO				4	4	4	4
2302	25.950	-97.576	RIO GRANDE NEAR RIVER BEND BOAT RAMP, 8 KM WEST OF BROWNSVILLE ON US 281	13179	IB/BN				4	4	4	4
2302	26.096	-98.272	RIO GRANDE INTERNATIONAL BRIDGE AT US 281 AT HIDALGO	13181	IB/IB				8	8	8	8
2302	26.096	-98.272	RIO GRANDE INTERNATIONAL BRIDGE AT US 281 AT HIDALGO	13181	WC/FO	2		2	4	4	4	4
2302	26.240	-98.560	RIO GRANDE AT SH 886 NEAR LOS EBANOS	13184	IB/IB				7	7	7	7
2302	26.370	-98.860	RIO GRANDE AT FORT RINGHOLD 1 MI. DOWNSTREAM FROM RIO GRANDE CITY	13185	IB/IB				12	4	12	12
2302	26.393	-99.084	RIO GRANDE BELOW RIO ALAMO NEAR FRONTON	13186	IB/IB				8	8	8	8
2302	26.393	-99.084	RIO GRANDE BELOW RIO ALAMO NEAR FRONTON	13186	WC/FO				4	4	4	4
2302	26.529	-99.158	RIO GRANDE 2.5 MI. BELOW FALCON DAM AT DIVERSION STRUCTURE	13187	WC/GS	6	6	6	6		6	6
2302	26.130	-98.330	RIO GRANDE 0.5 MI. BELOW ANZALDUAS DAM, 12.2 MI. FROM HIDALGO	13664	IB/IB				8		8	8
2302	26.068	-98.208	RIO GRANDE 200M UPSTREAM OF PHARR INTERNATIONAL BRIDGE (US281)	15808	IB/IB				8	8	8	8
2302	26.068	-98.208	RIO GRANDE 200M UPSTREAM OF PHARR INTERNATIONAL BRIDGE (US281)	15808	WC/FO	2		2	4	4		4
2302	26.063	-97.950	RIO GRANDE 100 METERS UPSTREAM FROM THE FM1015 BRIDGE THAT CROSSES INTO MEXICO AT PROGRESO	RG015	WC/FO				4	4	4	4
2303	26.864	-99.308	FALCON LAKE AT INTERNATIONAL BOUNDARY BUOY #1	13189	IB/IB				4	4		4

See page 5 for column heading descriptions

Lower Rio Grande Sub Basin Map

THE TEXAS CLEAN RIVERS PROGRAM

The International Boundary and Water Commission (IBWC) was created more than a century ago by the governments of the United States and Mexico to apply provisions of various boundary and water treaties, and settle differences arising from such applications through a joint international commission located at the border.

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