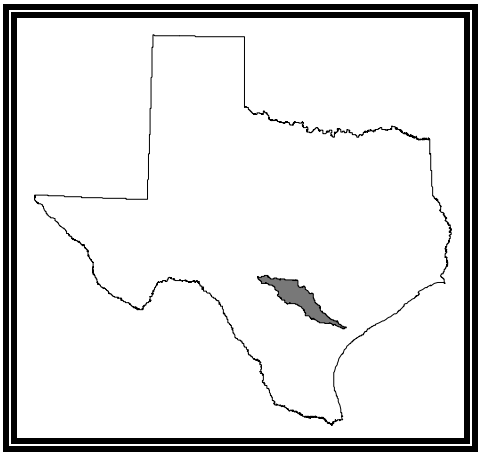
Below is an Electronic Version of an Out-of-Print Publication

Basin 19

San Antonio River



San Antonio River Basin Narrative Summary

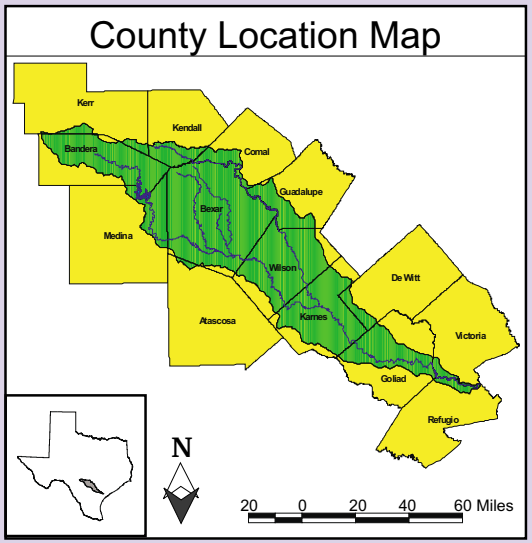
The San Antonio River originates in Brackenridge Park in San Antonio and flows southeastward to its confluence with the Guadalupe River near the Gulf Coast. San Antonio, the third-largest city in the state, is the largest metropolitan area in the basin. The total basin drainage area is 4,180 square miles. Principal tributaries to the San Antonio River include the Medina River, Leon Creek, Cibolo Creek, and Salado Creek.

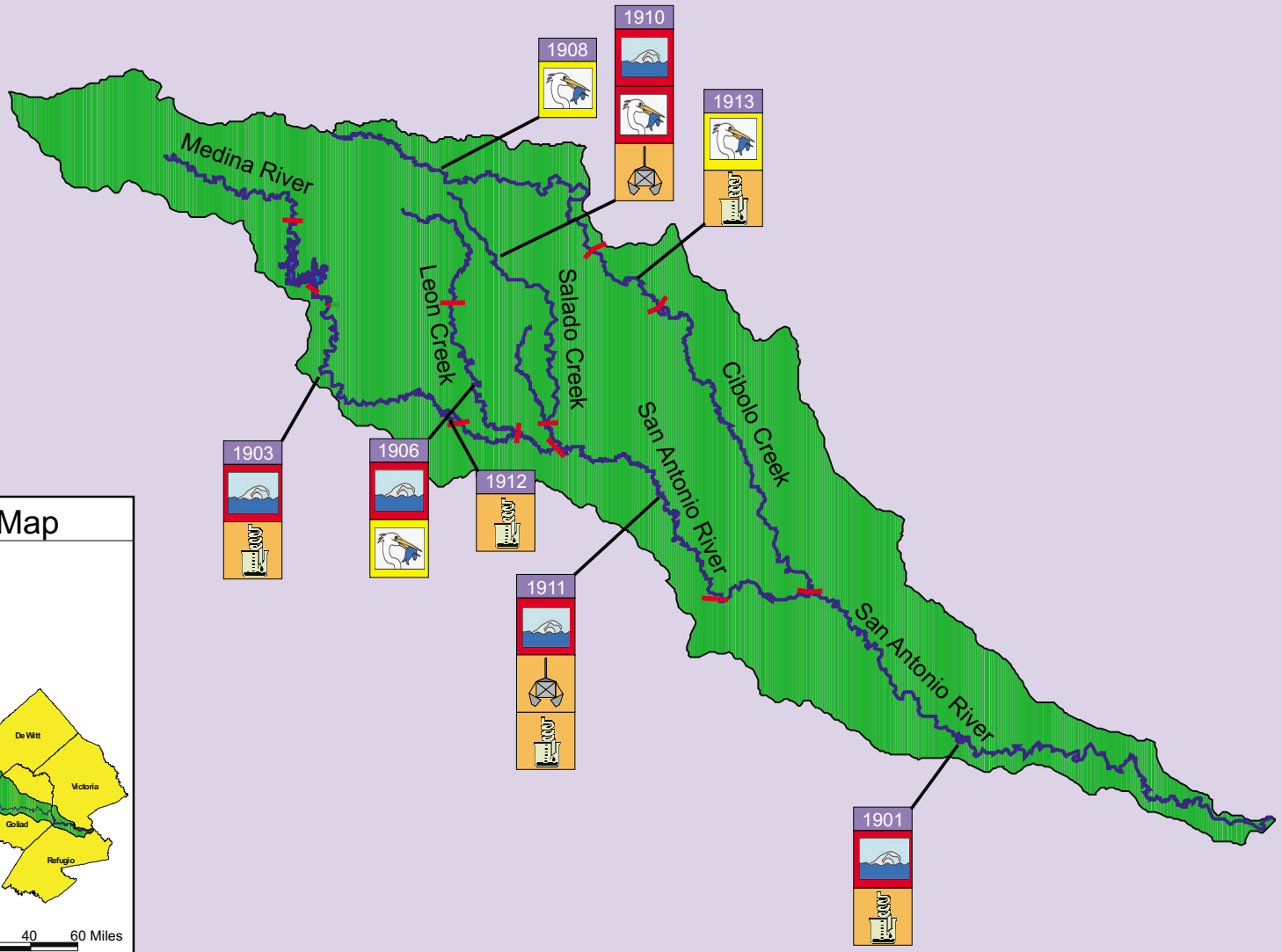
The San Antonio River Basin has been divided into 13 classified segments, including 11 stream segments encompassing 611 stream miles and two reservoirs encompassing 6,075 acres. There are 75 active monitoring stations in the San Antonio River Basin.

Historically, water quality in the San Antonio River was relatively poor, particularly during periods of low flow. In recent years, advanced waste treatment has been instituted at the three major City of San Antonio wastewater treatment plants (Dos Rios, Leon Creek, and Salado Creek), and a former facility, the Rilling Road WWTP, has been eliminated. As a result, dissolved oxygen concentrations in the San Antonio River have increased substantially, and aquatic life has been enhanced.

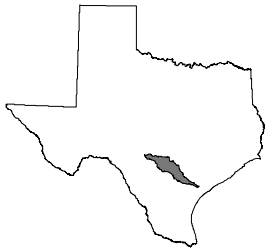
A few water quality problems remain. Low dissolved oxygen concentrations occur in four segments, and elevated fecal coliform levels in five segments. Concerns exist for nutrients in five segments, and for toxic substances in sediment in two segments.

San Antonio River Basin
Identified Water Quality Issues



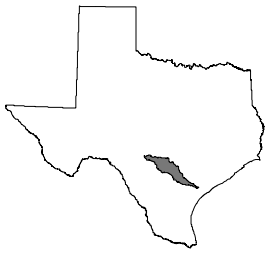


San Antonio River Basin Graphical Summary

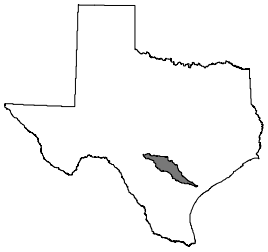
Basin Map	Water Bodies									
	**Segment 1901** Lower San Antonio River	**Segment 1902** Lower Cibolo Creek	**Segment 1903** Medina River Below Median Diversion Lake	**Segment 1904** Medina Lake	**Segment 1905** Medina River Above Medina Lake	**Segment 1906** Lower Leon Creek	**Segment 1907** Upper Leon Creek	**Segment 1908** Upper Cibolo Creek	**Segment 1909** Medina Diversion Lake	**Segment 1910** Salado Creek
DESIGNATED USE SUPPORT										
Contact Recreation	N	S	N	S	S	N	NA	S	S	N
Noncontact Recreation	X	X	X	X	X	X	X	X	X	X
Public Water Supply	X	X	S	S	S	S	S	S	S	S
Fish Consumption										
Human Health	S	S	S	NA	NA	S	NA	NA	NA	S
Advisories/Closures	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aquatic Life										
Dissolved Oxygen (Grab)	S	S	S	S	S	P	NA	P	S	N
Dissolved Oxygen (24-Hour)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals in Water	S	S	NA	NA	NA	S	NA	NA	NA	S
Organics in Water	NA	NA	S	NA	NA	S	NA	NA	NA	S
Water Toxicity Tests	NA	NA	S	NA	NA	S	NA	NA	NA	NA
Sediment Toxicity Tests	NA	NA	NA	NA	NA	S	NA	NA	NA	NA
Macrobenthos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fish	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GENERAL USE SUPPORT										
Water Temperature	S	S	S	S	S	S	NA	S	S	S
pH	S	S	S	S	S	S	NA	S	S	S
Chloride	S	S	S	S	S	S	NA	S	S	S
Sulfate	S	S	S	S	S	S	NA	S	S	S
Total Dissolved Solids	S	S	S	S	S	S	NA	S	S	S

S = Support; P = Partial Support; N = Nonsupport; T = Threatened; NC = No Concern; C = Concern;
NA = Not Assessed; X = Not Applicable

San Antonio River Basin Graphical Summary (Continued)

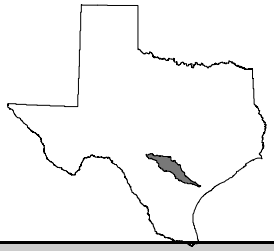
Basin Map	Water Bodies									
	**Segment 1901** Lower San Antonio River	**Segment 1902** Lower Cibolo Creek	**Segment 1903** Medina River Below Median Diversion Lake	**Segment 1904** Medina Lake	**Segment 1905** Medina River Above Medina Lake	**Segment 1906** Lower Leon Creek	**Segment 1907** Upper Leon Creek	**Segment 1908** Upper Cibolo Creek	**Segment 1909** Medina Diversion Lake	**Segment 1910** Salado Creek
WATER QUALITY CONCERNS										
Contact Recreation	X	X	X	X	X	X	NA	X	X	X
Noncontact Recreation	X	X	X	X	X	X	X	X	X	X
Fish Tissue	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sediment	NA	NA	NA	NA	NA	NA	NA	NA	NA	C
Narrative	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Nutrient Enrichment										
Ammonia Nitrogen	NC	NC	C	NC	NC	NC	NA	NC	NC	NC
Nitrite + Nitrate Nitrogen	C	NC	C	NC	NC	NC	NA	NA	NA	NC
Orthophosphorus	C	NC	C	NA	NC	NC	NA	NA	NA	NC
Total Phosphorus	C	NC	NC	NC	NC	NC	NA	NC	NC	NC
Chlorophyll *a*	NC	NC	NC	NC	NA	NC	NA	NC	NC	NA
Public Water Supply										
Finished Water Chloride	X	X	NC	NC	NC	NC	NC	NC	NC	NC
Finished Water Sulfate	X	X	NC	NC	NC	NC	NC	NC	NC	NC
Finished Water TDS	X	X	NC	NC	NC	NC	NC	NC	NC	NC
Surface Water Chloride	X	X	NC	NC	NC	NC	NA	NC	NC	NC
Surface Water Sulfate	X	X	NC	NC	NC	NC	NA	NC	NC	NC
Surface Water TDS	X	X	NC	NC	NC	NC	NA	NC	NC	NC
Aquatic Life										
Dissolved Oxygen	X	X	X	X	X	X	NA	X	X	X
Metals in Water	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Organics in Water	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Water Toxicity Tests	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sediment Toxicity Tests	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

San Antonio River Basin Graphical Summary

Basin Map	Water Bodies									
	**Segment 1911** Upper San Antonio River	**Segment 1912** Medio Creek	**Segment 1913** Mid Cibolo Creek							
DESIGNATED USE SUPPORT										
Contact Recreation	**N**	**S**	**S**							
Noncontact Recreation	**X**	**X**	**X**							
Public Water Supply	**X**	**X**	**X**							
Fish Consumption										
Human Health	**S**	**NA**	**NA**							
Advisories/Closures	**NA**	**NA**	**NA**							
Aquatic Life										
Dissolved Oxygen (Grab)	**S**	**S**	**P**							
Dissolved Oxygen (24-Hour)	**NA**	**NA**	**NA**							
Metals in Water	**S**	**NA**	**NA**							
Organics in Water	**S**	**NA**	**NA**							
Water Toxicity Tests	**NA**	**NA**	**NA**							
Sediment Toxicity Tests	**NA**	**NA**	**NA**							
Macrobenthos	**NA**	**NA**	**NA**							
Fish	**NA**	**NA**	**NA**							
GENERAL USE SUPPORT										
Water Temperature	**S**	**S**	**S**							
pH	**S**	**S**	**S**							
Chloride	**S**	**S**	**S**							
Sulfate	**S**	**S**	**S**							
Total Dissolved Solids	**S**	**S**	**S**							

S = Support; P = Partial Support; N = Nonsupport; T = Threatened; NC = No Concern; C = Concern;
NA = Not Assessed; X = Not Applicable

San Antonio River Basin Graphical Summary (Continued)

Basin Map	Water Bodies									
	**Segment 1911** Upper San Antonio River	**Segment 1912** Medio Creek	**Segment 1913** Mid Cibolo Creek							
WATER QUALITY CONCERNS										
Contact Recreation	X	X	X							
Noncontact Recreation	X	X	X							
Fish Tissue	NA	NA	NA							
Sediment	C	NA	NA							
Narrative	NC	NC	NC							
Nutrient Enrichment										
Ammonia Nitrogen	NC	NC	C							
Nitrite + Nitrate Nitrogen	C	NA	C							
Orthophosphorus	C	C	C							
Total Phosphorus	C	C	C							
Chlorophyll *a*	NA	NA	NC							
Public Water Supply										
Finished Water Chloride	X	X	X							
Finished Water Sulfate	X	X	X							
Finished Water TDS	X	X	X							
Surface Water Chloride	X	X	X							
Surface Water Sulfate	X	X	X							
Surface Water TDS	X	X	X							
Aquatic Life										
Dissolved Oxygen	X	X	X							
Metals in Water	NA	NA	NA							
Organics in Water	NA	NA	NA							
Water Toxicity Tests	NA	NA	NA							
Sediment Toxicity Tests	NA	NA	NA							

San Antonio River Basin

Segment 1901 - Lower San Antonio River

Water body description:	From the confluence with the Guadalupe River in Refugio/ Victoria County to a point 600 meters (660 yards) downstream of FM 791 at Mays Crossing near Falls City in Karnes County
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	153.00 Miles

Use support summary:	The contact recreation use is not supported due to elevated fecal coliform densities in the upper 108 miles. The aquatic life, fish consumption, and general uses are supported.
Water quality concerns summary:	Nitrite + nitrate nitrogen, orthophosphorus, and total phosphorus are concerns in the upper 108 miles.
Additional information:	A wasteload evaluation (WLE) for dissolved oxygen was approved in 1989 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers. A project is scheduled for fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at *www.tnrcc.state.tx.us/water/quality/tmdl/*.

Monitoring sites used in the assessment

Station	Station Description
12791	San Antonio River Bridge on US 77-A and 183 southeast of Goliad
12792	San Antonio River at Southern Pacific RR Bridge in Goliad
12794	San Antonio River at SH 72 near Runge
12796	San Antonio River at FM 81 at Hobson

Published studies

Publication	Date	Author
IMS 30 San Antonio River	Sept. 1975	Twidwell, S.
IS 59 San Antonio River	June 1983	Twidwell, S.
IS 64 San Antonio River	July 1981	Davis, J.
IS 72 San Antonio River	July 1984	Twidwell, S.
IS 87-04 San Antonio River	June 1984	Twidwell, S.

Wastewater dischargers

Permit type	Number of outfalls
Agriculture	4
Domestic	21
Industrial	2

San Antonio River Basin

Segment 1902 - Lower Cibolo Creek

Water body description:	From the confluence with the San Antonio River in Karnes County to a point 100 meters (110 yards) downstream of IH 10 in Bexar/Guadalupe County
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	71.00 Miles

Use support summary:	Available data indicate that all uses are supported.
Water quality concerns summary:	Available data indicate that there are no water quality concerns.
Additional information:	A wasteload evaluation (WLE) for dissolved oxygen was approved in 1986 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers.

Monitoring sites used in the assessment

Station	Station Description
12797	Cibolo Creek at FM 81 East of Panna Maria
12798	Cibolo Creek SH 123 at Cestohowa
12803	Cibolo Creek at FM 537, 4 mi west of SH 123, south of Stockdale
14197	Cibolo Creek at Skull Crossing
14211	Cibolo Creek at CR389 near Cestohowa, Texas

Published studies

Publication	Date	Author
IMS 38 Cibolo Creek	July 1974	Tomme, M.
IS 12 Salatrillo Creek	Sept. 1979	Twidwell, S.
IS 23 Martinez Creek	Nov. 1979	Ottmers, D.
IS 39 Cibolo Creek	April 1980	Buzan, D.
IS 87-04 Cibolo Creek	June 1984	Twidwell, S.

Wastewater dischargers

Permit type	Number of outfalls
Agriculture	2
Domestic	20

San Antonio River Basin

Segment 1903 - Medina River Below Medina Diversion Lake

Water body description:	From the confluence with the San Antonio River in Bexar County to Medina Diversion Dam in Medina County
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	80.00 Miles

Use support summary:	The contact recreation use is not supported due to elevated fecal coliform densities in the lower 5 miles. Available data indicate that other uses are supported.
Water quality concerns summary:	Ammonia nitrogen, nitrite + nitrate nitrogen, and orthophosphorus are concerns in the lower 5 miles.
Additional information:	A wasteload evaluation (WLE) for dissolved oxygen was approved in 1989 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers. A project is underway for fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at *www.tnrcc.state.tx.us/water/quality/tmdl/*.

Monitoring sites used in the assessment

Station	Station Description
12811	Medina River at FM 1937 near Losoya
12812	Medina River US 281 south of San Antonio
12814	Medina River at Applewhite Road
12823	Medina River west of Rio Medina

Monitoring sites, continued

Station	Station Description
13699	Medina River at FM 471, 1.0 mi. north of La Coste, 5.0 mi. upstream of Sherer Creek
14200	Medina River at CR 484

Published studies

Publication	Date	Author
IMS 46 Medina River	Aug. 1976	Twidwell, S.
IS 87-04 Medina River	June 1984	Twidwell, S.

Wastewater dischargers

Permit type	Number of outfalls
Agriculture	2
Domestic	14
Industrial	1

San Antonio River Basin

Segment 1904 - Medina Lake

Water body description: From Medina Dam in Medina County to a point immediately upstream of the confluence of Red Bluff Creek in Bandera County, up to normal pool elevation of 1064.2 feet (impounds Medina River)

Water body classification: Classified

Water body type: Reservoir

Water body length / area: 5,575 Acres

Use support summary: Available data indicate that the aquatic life, contact recreation, public water supply, and general uses are supported. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Monitoring sites used in the assessment

Station	Station Description
12825	Medina Lake at Medina Lake Dam, west of San Antonio
12826	Medina Lake near Red Cove
12827	Medina Lake at Mormon Bluff
12828	Medina Lake between Cypress and Spettel Coves
12829	Medina Lake mid-lake near headwater

Wastewater dischargers

Permit type	Number of outfalls
Domestic	2

San Antonio River Basin

Segment 1905 - Medina River Above Medina Lake

Water body description:	From the confluence of Red Bluff Creek in Bandera County to the confluence of the North Prong Medina River and the West Prong Medina River in Bandera County
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	34.00 Miles
Use support summary:	Available data indicate that the aquatic life, contact recreation, public water supply, and general uses are supported. The fish consumption use was not assessed due to insufficient data.
Water quality concerns summary:	Available data indicate that there are no water quality concerns.

Monitoring sites used in the assessment

Station	Station Description
12830	Medina River at Old English crossing above Bandera Falls
14213	Medina River downstream Bandera at low water crossing in Bandina Christian Youth Camp

Wastewater dischargers

Permit type	Number of outfalls
Domestic	3

San Antonio River Basin

Segment 1906 - Lower Leon Creek

Water body description: From the confluence with the Medina River in Bexar County to a point 100 meters (110 yards) upstream of SH 16 northwest of San Antonio in Bexar County

Water body classification: Classified

Water body type: Freshwater Stream

Water body length / area: 32.00 Miles

Use support summary: The aquatic life use is partially supported due to depressed dissolved oxygen concentrations. The contact recreation use is not supported due to elevated fecal coliform densities through a 7-mile reach in the vicinity of Loop 13 in San Antonio. The public water supply, fish consumption, and general uses are fully supported.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Additional information: A wasteload evaluation (WLE) for dissolved oxygen was approved in 1989 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers.

A project is underway for dissolved oxygen and fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at *www.tnrcc.state.tx.us/water/quality/tmdl/*.

Monitoring sites used in the assessment

Station	Station Description
12836	Leon Creek at SH 16, 4 mi. west of Mitchell Lake
12838	Leon Creek at IH 35 south of San Antonio

Monitoring sites, continued

Station	Station Description
12840	Leon Creek at Quintana Road in San Antonio
12841	Leon Creek at low water crossing at Ruiz Ranch 1.88 km downstream of Loop 13 south of San Antonio
12845	Leon Creek at US 90 west in San Antonio
14209	Leon Creek upstream Rodriquez Park

Published studies

Publication	Date	Author
AS-28/SR Leon Creek	Nov. 1989	Dela Cruz, A (Region 13)
IMS 45 Leon Creek	July 1974	Rathburn, D.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	12
Industrial	25

Historical fish kills

Start date	Location	Fish killed	Suspected cause
09/19/1994	Leon Creek adjacent to the industrial wastewater treatment plant at Kelly AFB	12	Low Dissolved Oxygen
09/02/1996	Leon Creek	165	Low Dissolved Oxygen

San Antonio River Basin

Segment 1907 - Upper Leon Creek

Water body description:	From a point 100 meters (110 yards) upstream of SH 16 northwest of San Antonio in Bexar County to a point 9.0 km (5.6 miles) upstream of Scenic Loop Road north of Helotes in Bexar County
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	25.00 Miles

Use support summary:	Available data indicate the public water supply use is supported. Other uses were not assessed due to insufficient data.
Water quality concerns summary:	Available data indicate that there are no public water supply concerns for finished drinking water. Other concerns were not assessed due to insufficient data.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	4
Industrial	2

San Antonio River Basin

Segment 1908 - Upper Cibolo Creek

Water body description:	From the Missouri-Pacific Railroad Bridge west of Bracken in Comal County to a point 1.5 km (0.9 miles) upstream of the confluence of Champee Springs in Kendall County
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	66.00 Miles

Use support summary:	The aquatic life use is partially supported due to depressed dissolved oxygen concentrations through a 2-mile reach southeast of Boerne. The public water supply and general uses are supported. The fish consumption use was not assessed due to insufficient data.
Water quality concerns summary:	Available data indicate that there are no water quality concerns.
Additional information:	A project is underway for dissolved oxygen to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at *www.tnrcc.state.tx.us/water/quality/tmdl/*.

Monitoring sites used in the assessment

Station	Station Description
12853	Cibolo Creek 2.5 mi. SE of Boerne
12855	Cibolo Creek at Boerne City Park

Published studies

Publication	Date	Author
IS 37 Cibolo Creek	July 1979	Ezell, C.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	16
Industrial	1

San Antonio River Basin

Segment 1909 - Medina Diversion Lake

Water body description:	From Medina Diversion Dam in Medina County to Medina Lake Dam in Medina County, up to normal pool elevation of 926.5 feet (impounds Medina River)
Water body classification:	Classified
Water body type:	Reservoir
Water body length / area:	500 Acres

Use support summary:	Available data indicate that the aquatic life, contact recreation, public water supply, and general uses are supported. The fish consumption use was not assessed due to insufficient data.
Water quality concerns summary:	Available data indicate that there are no water quality concerns.

Monitoring sites used in the assessment

Station	Station Description
14251	Medina River at unnamed county road below diversion dam

San Antonio River Basin

Segment 1910 - Salado Creek

Water body description:	From the confluence with the San Antonio River in Bexar County to Rocking Horse Lane west of Camp Bullis in Bexar County.
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	44.00 Miles

Use support summary:	The aquatic life use is not supported through a 1.25 mile reach near SH 368, and partially supported through short reaches near northeast Loop 410, Pletz Park, and MLK Park (total 5.5 miles) due to depressed dissolved oxygen concentrations. The contact recreation use is not supported due to elevated fecal coliform densities in the lower 24 miles . The public water supply, fish consumption, and general uses are supported.
Water quality concerns summary:	Cadmium in sediment is a concern in the lower 25 miles.
Additional information:	A wasteload evaluation (WLE) for dissolved oxygen was approved in 1993 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers. Projects are underway for dissolved oxygen and fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at *www.tnrcc.state.tx.us/water/quality/tmdl/*.

Monitoring sites used in the assessment

Station	Station Description
12861	Salado Creek at Southton Road in San Antonio
12862	Salado Creek at Goliad Road (Old Corpus Christi Highway)
12864	Salado Creek at Loop 13 in south San Antonio
12868	Salado Creek at Rigsby Ave (US 87)
12870	Salado Creek at Gembler Rd
12871	Salado Creek at IH 35 in San Antonio
12872	Salado Creek at Pershing Rd, Ft Sam Houston army base
12875	Salado Creek at Eisenhauer Road in San Antonio
12877	Salado Creek at NE Loop 410 in San Antonio
12878	Salado Creek at Los Patios (Loop 410 North)
15642	Salado Creek off Holbrook Rd, 100 m south of Woodburn Rd and 2.4 km downstream from SH 368 in San Antonio
15643	Salado Creek 100m upstream of SH 368 in San Antonio
15644	Salado Creek at NE corner of Pletz Park off Picarde Dr, 0.9 km downstream from IH 35 in San Antonio
15645	Salado Creek immediately upstream from Commerce St and 0.7 km upstream from IH 10 in San Antonio
15646	Salado Creek immediately upstream of low water crossing in Martin Luther King Park (off MLK Dr), 1.2 km downstream of IH 10 in San Antonio
15647	Salado Creek immediately downstream of east Southcross Blvd. In Southside Lions Park in San Antonio
15733	Salado Creek (east channel) in Comanche Park, downstream from the large spring and 1.5km downstream from US 87 in San Antonio

Published studies

Publication	Date	Author
IS 42 Salado Creek	April 1981	Buzan, D.
IS 87-04 Salado Creek	June 1984	Twidwell, S.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	5
Industrial	5

Historical fish kills

Start date	Location	Fish killed	Suspected cause
09/18/1998	Rosillo Creek 0.5 mi upstream of Sulphur Sperings Rd.	7,217	Pollutant

San Antonio River Basin

Segment 1911 - Upper San Antonio River

Water body description:	From a point 600 meters (660 yards) downstream of FM 791 at Mays Crossing near Falls City in Karnes County to a point 100 meters (110 yards) upstream of Hildebrand Avenue at San Antonio in Bexar County
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	85.00 Miles

Use support summary:	The contact recreation use is not supported due to elevated fecal coliform densities. The aquatic life, fish consumption, and general uses are supported.
Water quality concerns summary:	Nitrite + nitrate nitrogen, orthophosphorus, and total phosphorus are concerns in the lower 66 miles. Cadmium, chromium, copper, and lead in sediment are concerns in the upper 25 miles.
Additional information:	A wasteload evaluation (WLE) for dissolved oxygen was approved in 1989 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers. A project is underway for fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at *www.tnrcc.state.tx.us/water/quality/tmdl/*.

Monitoring sites used in the assessment

Station	Station Description
12879	San Antonio River at FM 791 SW of Falls City
12880	San Antonio River at FM 541 near Poth
12881	San Antonio River at SH 97 near Floresville

Monitoring sites, continued

Station	Station Description
12882	San Antonio River at FM 536 in Floresville, Texas
12883	San Antonio River at Dietz Rd NW of Floresville
12884	San Antonio River at Labatt Rd Bridge SE of Calaveras
12885	San Antonio River at county rd near Calaveras
12886	San Antonio River at FM 1604 west of Elmendorf
12889	San Antonio River at IH 37 SE of San Antonio
12890	San Antonio River just above confluence with Medina River
12894	San Antonio River at Blue Wing Rd. SE of San Antonio
12897	San Antonio River at IH 410, low water crossing Camino Coahuilatechan, 0.25 km below the bridge in San Antonio
12899	San Antonio River at low water crossing for Padre Rd., near end of Ashley Rd.
12903	San Antonio River at Theo Ave. in San Antonio
12904	San Antonio River at Alamo St. in San Antonio
12907	San Antonio River at east Ashby PL, in San Antonio
12908	San Antonio River at Woodlawn Ave. in San Antonio
12912	San Antonio River at Hildebrand St. in San Antonio
14220	San Antonio River at Lone Star Blvd, San Antonio, TX
14256	San Antonio River at Mitchell St. in downtown San Antonio
15308	San Antonio River 220m upstream of age refining (permit #0002921) along Padre Rd, 700m downstream of Loop 13 (military hwy)
15310	San Antonio River 30m upstream from Brooks AFB discharge (permit# 0003830) along Padre Rd, 1.2 km downstream of Loop 13 (military hwy)

Published studies

Publication	Date	Author
IMS 30 San Antonio River	Sept. 1975	Twidwell, S.
IS 59 San Antonio River	June 1983	Twidwell, S.
IS 64 San Antonio River	July 1981	Davis, J.
IS 72 San Antonio River	July 1984	Twidwell, S.
IS 87-04 San Antonio River	June 1984	Twidwell, S.
LP 89-07 San Antonio River	July 1984	Davis, J.

Wastewater dischargers

Permit type	Number of outfalls
Agriculture	8
Domestic	20
Industrial	50

Historical fish kills

Start date	Location	Fish killed	Suspected cause
06/02/1994	Calaveras Lake cooling water inlet canal	10,000	Low Dissolved Oxygen
01/16/1995	Woodlawn Lawn at western end of lake, San Antonio city park lake	100	Temperature
06/26/1995	Martinez Creek	50	Low Dissolved Oxygen
08/01/1995	Miller's Park pond	127	Low Dissolved Oxygen
01/18/1996	Windcrest City Park pond	100	Temperature
02/06/1996	San Pedro Creek	100	Temperature
03/03/1996	San Antonio River	298	Temperature
04/24/1996	San Antonio River	5,044	Low Dissolved Oxygen
07/07/1996	Calaveras Lake	123	Low Dissolved Oxygen
08/28/1997	Columbia Bowling Ball Company at West Rd and Jacksonkeller, San Antonio	21,470	Organic compound
07/14/1998	Intake canal at Lake Calaveras	39,184	Low Dissolved Oxygen

San Antonio River Basin

Segment 1912 - Medio Creek

Water body description:	From the confluence with the Medina River in Bexar County to a point 1.0 km (0.6 miles) upstream of IH 35 in San Antonio Bexar County
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	2.00 Miles
Use support summary:	Available data indicate that the aquatic life, contact recreation, and general uses are supported. The fish consumption use was not assessed due to insufficient data.
Water quality concerns summary:	Orthophosphorus and total phosphorus are concerns.
Additional information:	A wasteload evaluation (WLE) for dissolved oxygen was approved in 1989 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers.

Monitoring sites used in the assessment

Station	Station Description
12917	Medio Creek at IH 35
13659	Medio Creek at Pearsall Rd. in San Antonio, 1.2 mi. SW of Loop 410

Published studies

Publication	Date	Author
IS 51 Medio Creek	June 1982	Twidwell, S.
IS 86-08 Medio Creek	March 1986	Twidwell, S.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	4

San Antonio River Basin

Segment 1913 - Mid Cibolo Creek

Water body description:	From a point 100 meters (110 yards) downstream of IH 10 in Bexar/Guadalupe County to the Missouri-Pacific Railroad bridge west of Bracken in Comal County
Water body classification:	Classified
Water body type:	Freshwater Stream
Water body length / area:	19.00 Miles

Use support summary: The aquatic life use is partially supported through the upper 11.25 miles due to depressed dissolved oxygen concentrations. Available data indicate that the contact recreation and general uses are supported. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Ammonia nitrogen is a concern from the Cibolo Creek Municipal Authority Wastewater Treatment Plant to a point 2.5 miles downstream. Nitrite + nitrate nitrogen, orthophosphorus, and total phosphorus are concerns in the lower 7.75 miles of the segment.

Additional information: A wasteload evaluation (WLE) for dissolved oxygen was approved in 1986 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers.

A project is underway for dissolved oxygen to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at *www.tnrcc.state.tx.us/water/quality/tmdl/*.

Monitoring sites used in the assessment

Station	Station Description
12921	Cibolo Creek at Weir Rd, 3 mi upstream from IH 10
14212	Cibolo Creek upstream Cibolo Creek municipal authority's WWTP (permit# 0011269-001) off River Road
15312	Cibolo Creek 200m downstream from Cibolo Creek municipal authority's WWTP (permit# 0011269-001) approx. 1.2km downstream from FM 78, E. of Schertz

Published studies

Publication	Date	Author
IMS 38 Mid Cibolo Creek	July 1974	Tomme, M.
IS 39 Mid Cibolo Creek	April 1980	Buzan, D.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	5