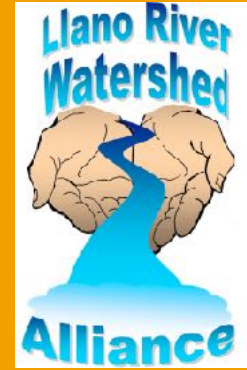
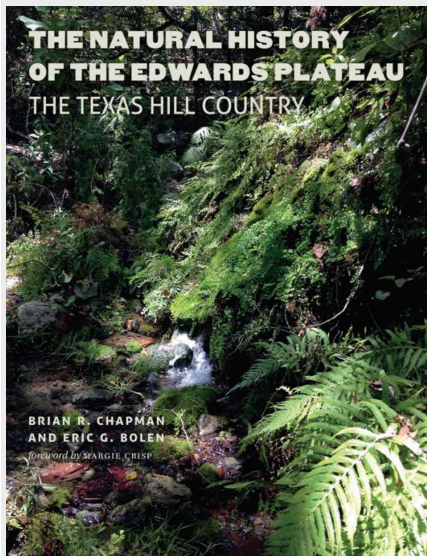


WATERSHED WEEK IN REVIEW

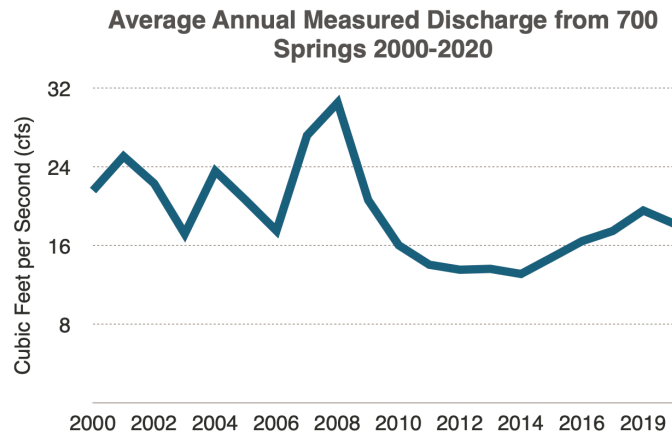


Looking for a Gift?



Beginning with the stories of how biologists and naturalists have defined the ecological areas of the great state of Texas over time, The Natural History of the Edwards Plateau explores the formation of the region more than a billion years ago, its diverse ecosystems, and the conservation efforts to keep those ecosystems intact and thriving.

Second Driest Decade



A few weeks ago we showed a graphic that 2010-2020 has been the second driest decade on record, with average annual rainfall for each year of the decade at 2.5 inches below normal.

The 1950s were 5.1 inches below normal.

Average annual springflow measurements (4 to 6 measurements annually) at 700 Springs also demonstrate the impacts of the drought on the springs, as there has only been moderate recovery since the drought of 2011. The graphic above also shows the drought could have been much worse if not for the very wet year in 2007.

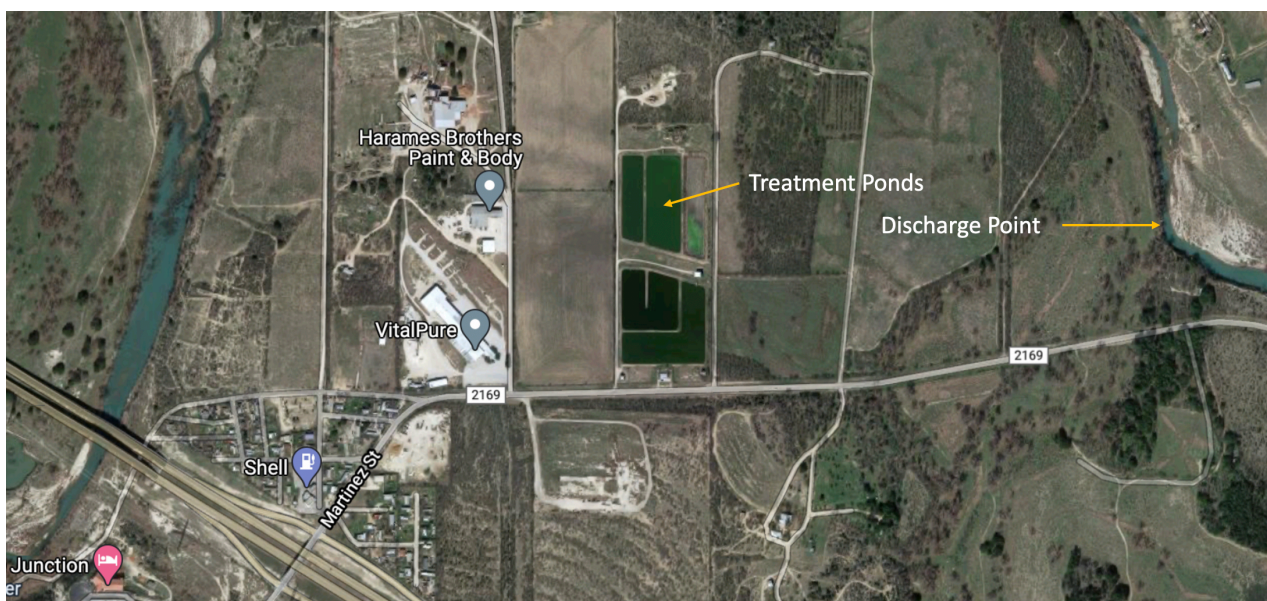
Pristine to Polluted - Sewage Problems and Solutions in the Texas Hill Country

Part II

Last week we carried information from a Save Barton Creek Association report regarding sewage problems and solutions in the Hill County. The Pristine to Polluted Report graded 48 Hill Country municipal sewage treatment plants with discharge permits from the Texas Commission on Environmental Quality (TCEQ). These discharge permits regulate the type and volume of pollutant that treatment plants may discharge into streams. In the report, the City of Junction received an 'F' for 52 exceedances over a 3 1/2 period. Here is some information about the facility.

The City of Junction's wastewater treatment facility is located on a bend of the Llano River, northeast of Junction off the Martinez Street exit. The facility discharges about 162,000 gallons of wastewater per day to the Llano River. The TCEQ permit allows for a daily discharge of 280,000 gallons per day. The permit requires the City to self-monitor and report samples for Biochemical Oxygen demand, Total Suspended Solids, and Dissolved Oxygen once per week and *E-coli* twice a month.

continued next page



Biochemical Oxygen Demand, or BOD is the amount of oxygen in the water that will be consumed by the ammonia and aerobic bacteria remaining in the treated sewage. It is a measure of the effectiveness of treatment plants; the higher the BOD, the less available dissolved oxygen (DO). When DO is low, aquatic organisms becomes stressed and can eventually die. Total Suspended Solids is a measure of water clarity and *E-coli* is an indicator of how much bacteria is in the water.

The City of Junction reported data are available from EPA’s Enforcement and Compliance History Online (ECHO) database. These are the same data used by Save Barton Creek Association in their analysis. The ECHO database notes that over the past 12 quarters, there have been seven quarters with significant violations at the treatment plant, the latest being an exceedance of *E-coli* limitations. Last month, the TCEQ assessed a penalty of \$16,187 against the City for failure to comply with permitted effluent limitations for 5-day biochemical oxygen demand and E-coli.

See Table from TCEQ Below

City of Junction
 TPDES Permit No. WQ0010199001
 Docket No. 2020-0102-MWD-E
 Case No. 58816

Effluent Violation Table				
Monitoring Period	Biochemical Oxygen Demand (5-day) Daily Average Concentration Limit = 30 mg/L	Biochemical Oxygen Demand (5-day) Daily Average Loading Limit = 70 lbs/day	<i>Escherichia coli</i> Daily Average Concentration Limit = 126 CFU/100 ml	<i>Escherichia coli</i> Single Grab Concentration Limit = 399 CFU/100 ml
November 2018	36.25	c	c	980
December 2018	31	c	162	816
January 2019	33.4	c	c	c
February 2019	61.25	76	1,077	2,420
March 2019	49.75	c	c	1,120
April 2019	55	c	c	c
May 2019	46.8	c	157.5	c
June 2019	32	c	c	c
July 2019	c	c	150	c
August 2019	30.25	c	c	c

mg/L = milligrams per liter
 CFU/100 ml = colony-forming units per 100 milliliters

lbs/day = pounds per day
 c = compliant

In addition to paying \$12,950 (\$3,237 is deferred), the City of Junction now has 130 days to submit written certification of compliance with the permitted effluent limitations, providing what corrective actions were taken to achieve compliance and demonstrating at least three consecutive months of compliance with all permitted effluent limitations. Failure to comply with these provisions may result in a negative impact on compliance history and greater scrutiny of any permit applications submitted. The City of Junction recently filed an application to TCEQ to renew this permit.

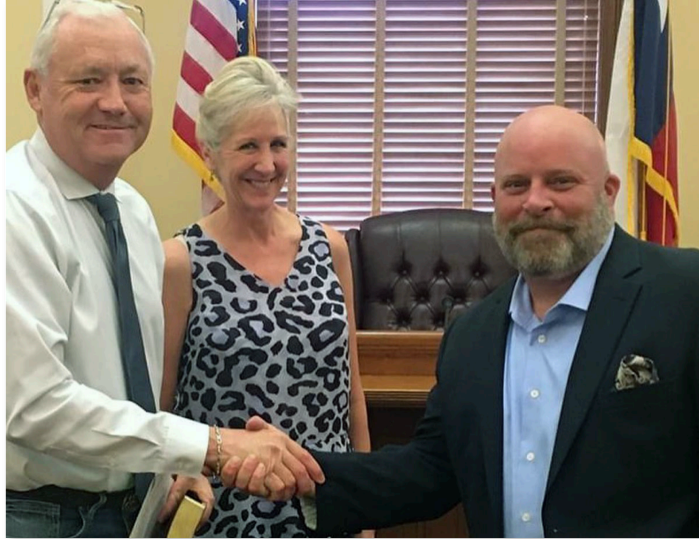
The Llano River Watershed Alliance has expressed concerns over the years regarding the City's Wastewater Treatment Plant and distribution system: 1) effluent discharge exceedances; 2) the exposed pipeline carrying pressurized sewage across the river just above the confluence with the North Llano; and 3) lack of permit limitations on nutrient discharges. The Alliance is very grateful to the City for beginning to address the exposed pressured sewer line and is hopeful the City can now begin to address the effluent discharge exceedances. In regards to the lack of limitations on nutrient discharge, the Alliance will be requesting TCEQ establish nutrient limits on discharge in our comments regarding the permit renewal. Rivers in the Hill Country naturally have few nutrients and are very susceptible to algal blooms resulting from excess nitrogen from treatment plants, yet TCEQ's water quality standards lack strict nutrient limits for Hill Country rivers.

In our additional comments to TCEQ regarding Junction's permit renewal, the Alliance will strongly suggest that the City move to disposing their wastewater via reuse and irrigation rather than discharging it to the Llano River. One of the recommendations promoted by the Save Barton Creek Association in their report, the Alliance believes this alternative is likely the City of Junction's best solution. The City of Llano has utilized this approach for many years, growing hay on lands surrounding the wastewater facility with treated effluent. There is ample acreage surrounding Junction's treatment plant, some of which is already under cultivation. TCEQ recently revised its rules for the TLAP (Texas Land Application Permit) program, providing a credit program to reduce the amount of land required for irrigation effluent.

Llano County Beefs Up Environmental Enforcement

From *DailyTrib.com*

Llano County Attorney Rebecca Lange's office is stepping up its efforts against environmental crimes with the addition of a second investigator. Officer Eric "Cash" Cashion joined the environmental compliance and enforcement section in September, but he's already begun mastering environmental law and compliance standards. He joins James Brown in the department.



According to a Llano County Attorney's media release, the two officers have already addressed several environmental concerns and complaints.

"While remaining cognizant of the challenges created by COVID-19 for law enforcement, the officers have developed and implemented effective surveillance and compliance strategies that have abated environmental concerns related to littering at low water crossings, commonly referred to as 'slabs,' located throughout the county," the release stated. "Similar surveillance strategies have been successful in addressing illegal dumping concerns at Black Rock Park on Lake Buchanan."

The officers investigate crimes such as illegal dumping, illegal burning, and public nuisance as defined by the Texas Health and Safety Code.

Llano County residents with concerns or information regarding possible environmental crimes or issues can contact the two officers or learn more about filing a complaint through the [county's environmental compliance and enforcement](#) webpage. see article...

Editor's Note: Individual on left is Llano County Judge Ron Cunningham.