

Bulverde Developments Threaten Local Water Supply By Discharging Treated Sewage Into The Edwards Aquifer

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The past decade has seen numerous developments sprouting up in the area around Bulverde, Texas. Driven by close proximity to the one of the fastest-growing cities in the U.S., the sprawling development in the Bulverde area is going largely unchecked, causing all sorts of problems for local residents.

Winding through the Bulverde area is Cibolo Creek, a tributary of the San Antonio River. Cibolo Creek is unique in that it contains numerous faults and fractures that recharge the Edwards Aquifer. This connection between Cibolo Creek and the Edwards provides groundwater for many who rely on wells for their household use and contributes to a healthy Edwards ecosystem. Since developers are proposing very high density projects with as many as five or six houses per acre, multiple sewage treatment plants seeking to discharge treated sewage effluent into local creeks and streams have popped up to handle the waste of the burgeoning Bulverde population.

While treated sewage has undergone removal of solids and bacteria, it is still high in nutrients such as nitrogen and phosphorous, which are harmful to humans if ingested in high quantities. Treated sewage, or effluent, also contains pharmaceuticals, hormones, microplastics, and other harmful chemicals which can't be easily removed during the sewage treatment process.

By Texas law, it is illegal to discharge treated sewage directly into waterways over the Edwards Aquifer Recharge Zone. But developers have exploited a loophole in the law, discharging instead into dry ditches and small tributaries that flow into Cibolo Creek and hence, into the Edwards Aquifer. In essence, directly discharging sewage effluent into these small streams and creeks which flow through the properties of others and may have a negative impact on the water they draw from their wells is akin to you dumping your trash in your neighbor's yard.

Fig. 1 below shows all of the development tracts in the Bulverde area, including the status of existing TPDES (treated sewage discharge) permits. The TCEQ has already approved numerous permits to dump treated sewage into both Cibolo Creek (to the south and east of Bulverde) and the Guadalupe River (to the north), with several other permits recently submitted for approval. The TCEQ has approved almost every TPDES permit that has been submitted by developers and municipalities in recent years. The only line of defense for concerned area residents has been environmental organizations like the Greater Edwards Aquifer Alliance (GEAA), who organize local residents and help raise funds for legal challenges to the permits. While the treated sewage discharges are happening all over the Texas Hill Country, the heavy concentration of so many wastewater plants so close to the Edwards Aquifer recharge zone in Bulverde is of great concern.

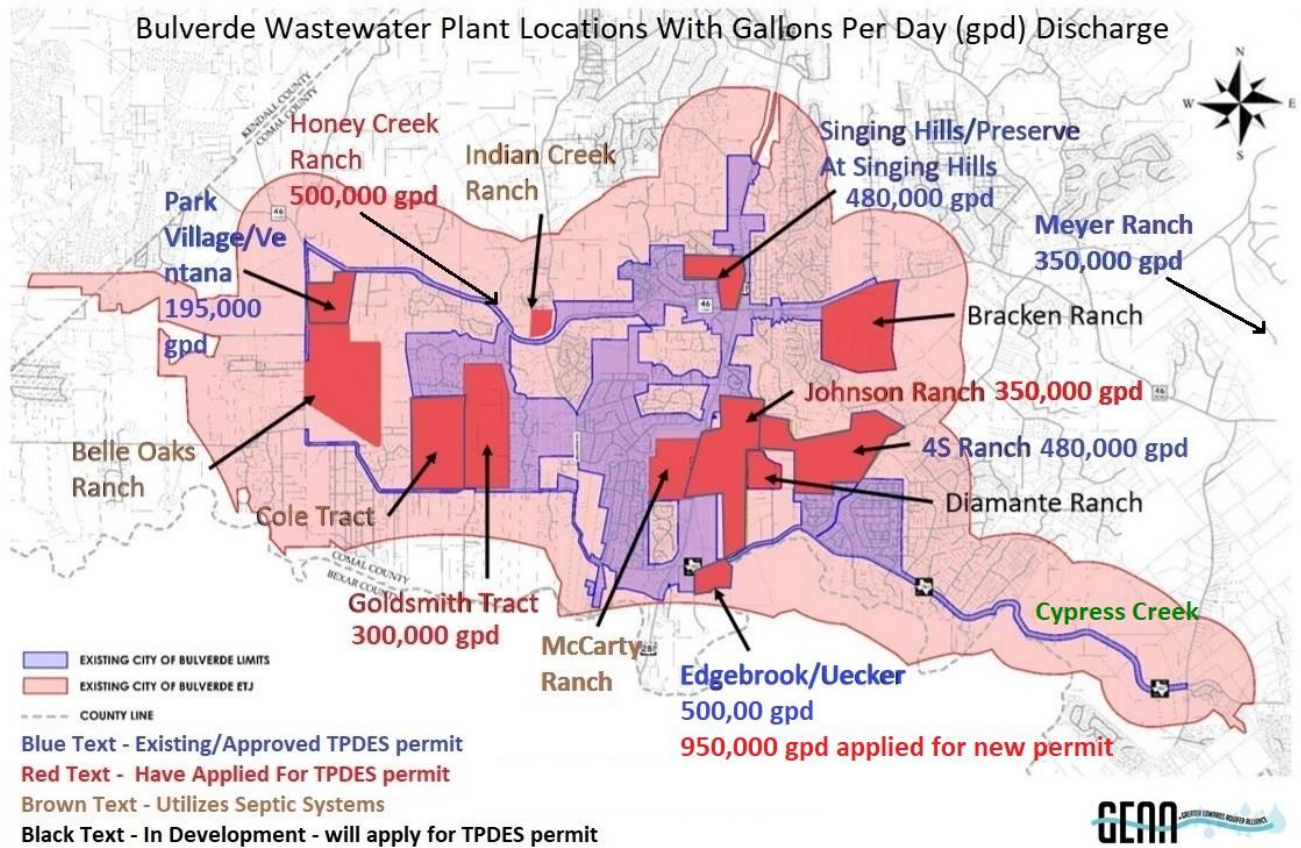


Fig 1 The TCEQ has approved over 2 million gallons/day of Bulverde treated sewage discharges, with more to come

One area of particular concern includes the Edgebrook, Copper Canyon, and Johnson Ranch developments, all located in the same area east of Highway 281 near Bulverde (see Fig. 2 below). All three developments have TCEQ permits to discharge into Cibolo Creek via two

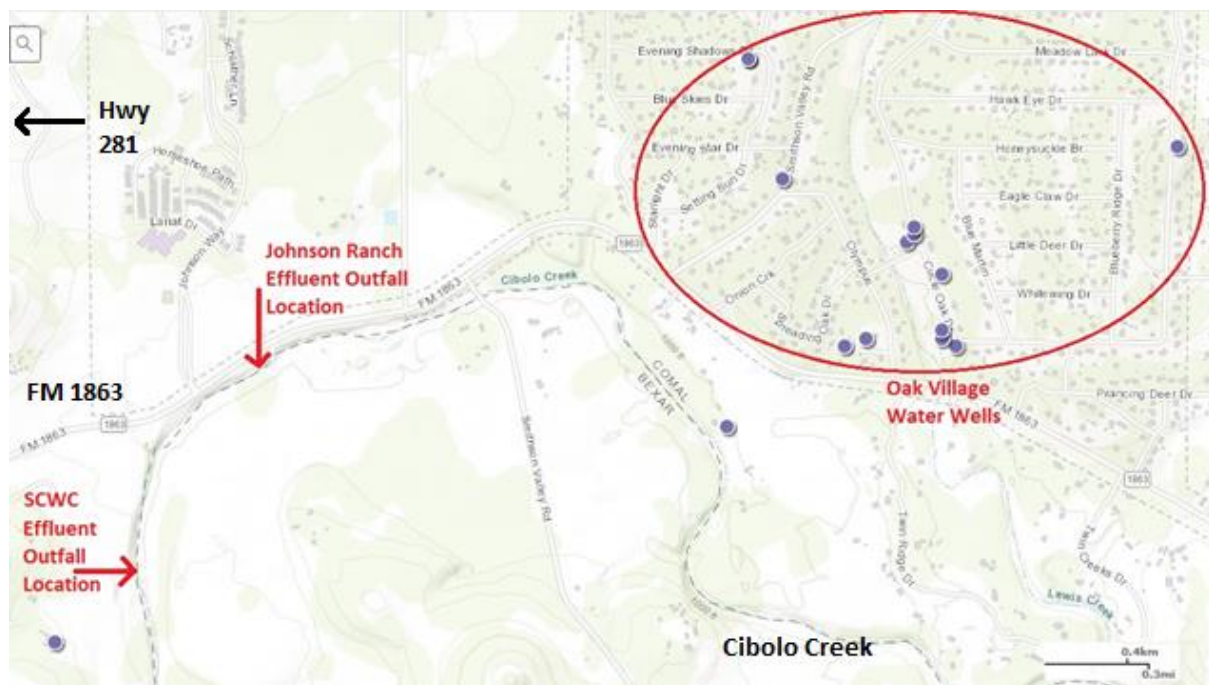


Fig. 2 South Central Water Company (SCWC) and Johnson Ranch both discharge treated sewage into Cibolo Creek, precariously close to local public supply water wells in Oak Village, just downstream

wastewater treatment plants, the South Central Water Company (SCWC) plant and the Johnson Ranch plant. Both plants have just recently begun discharging into Cibolo Creek via ditches that are less than ¼ mile away from Cibolo Creek/the Edwards Aquifer recharge zone.

Despite the fact that the two wastewater plants are discharging relatively small amounts of effluent, the local effects have already been dramatic, as Fig. 3 and Fig. 4 below clearly show. It doesn't take much treated sewage to turn a pristine creek into an algae-filled slime pool.



Fig. 3 Algae from treated sewage chokes Cibolo Creek just below the SCWC plant outfall

The SWSC plant is likely discharging less than 50,000 gallons per day of effluent, but their current permit allows for up to 10 times that amount, 500,000 gallons per day. They have just applied for a permit upgrade to 950,000 gallons per day, which they will likely receive from the TCEQ. The Johnson Ranch plant is also discharging just a fraction of their 350,000 gallons per day allowable permit, but this amount will increase substantially, as the 1000-home Johnson Ranch development gets built out.



Fig. 4 Johnson Ranch's treated sewage discharge flows from this unnamed tributary into Cibolo Creek, just upstream from multiple Oak Village public supply water wells

An accidental spill or discharge of raw sewage or partially-treated sewage from either the SCWC or Johnson Ranch plants would be catastrophic, given that water entering the Edwards is not filtered and travels rapidly within the Edwards Aquifer. But even under normal operation, following standard procedures and safeguards for wastewater treatment plants, the local impacts could be severe for nearby residents who depend on the Edwards Aquifer for their drinking water. The Greater Edwards Aquifer Alliance needs your support to fight the proliferation of treated sewage dumping in the Texas Hill Country. Please visit our website <https://aquiferalliance.org/waste-water-discharge/> for more information and to see how you can advocate for preserving one of the world's most prolific aquifers and for keeping Hill Country streams and rivers clean.