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Kent S. Butler Memorial Groundwater Stewardship Scholarship

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Protect the Future

With graduation just around the corner, I recently started to reflect on my four years in high school. Most people, when they think of high school, generally recall the basics, such as friends, sports, school dances, and more. But for me, some of my most vivid memories from my high school years will be of time spent along Onion Creek. I remember joining my parents in the process of finding a place to live when I was in middle school, and we found a three-acre piece of land in Driftwood where Onion Creek literally ran through the middle of the backyard. My parents were still considering other properties but I was dead set on this one from the first moment I saw it. To my luck, we ended up buying the land, and ever since then, that creek has brought so many special moments into my life. From teaching my little cousins how to paddle board, to having all of my friends over to swim and canoe whenever it is nice out, to walking my dogs across the dam of the creek, to spending all day with my Dad putting crawfish back into the water after floods, this little section of the creek means so much to me. However, an issue came to my attention in 2015 that could forever alter the creek in my backyard.

With the rapid population growth and development of Dripping Springs in the last few years, the city requested a permit from the Texas Commission on Environmental Quality to “discharge treated sewage into a tributary of Onion Creek,” dumping up to 995,000 gallons of treated wastewater into the creek every single day year round (Goldenstein). Onion Creek would not be the only waterway impacted by this discharge because it “ultimately feeds the Barton Springs portion of the Edwards Aquifer” (Price) resulting in potential issues both above and below

ground far beyond the boundaries of Dripping Springs. The reasons for concern about this discharge are numerous. Water pollution in local waterways is already increasing due to non-point source pollution causes. Additionally, human error or plant failure can result in actual untreated or partially treated wastewater being released into the water as we have seen in nearby communities like Kyle and Liberty Hill. The bottom line, though, is that this permit could cause a “threat to public health, Onion Creek and drinking water quality” (Barer) and other options must be considered for disposing of Dripping Springs' wastewater.

Adding treated effluent to Onion Creek will dramatically alter the chemical makeup and the water levels of the creek, forever changing its ecosystem. For example, the current amount of phosphorus per year in Onion Creek is one pound, and if the proposed permit were to be passed, that amount would increase to four hundred fifty pounds per year. Additionally, the treated wastewater would add nitrogen and residual chlorine. Both phosphorus and nitrogen are “contaminants that can severely degrade water quality,” and lead to algal blooms (King). Large amounts of algae can create dead zones by consuming the oxygen that is necessary for the various species in the creek to live. Algae also produces toxins that can harm and potentially hurt both people and wildlife. Even if the toxins were not present, algae can still be harmful by “blocking out sunlight and clogging fish gills” (“Climate Adaptation and Harmful Algal Blooms”).

The potential harm to both humans and wildlife who use Onion Creek is clear but less obvious, initially, was evidence that treated wastewater would impact the drinking water of well users along the creek. When questions began to arise of where the discharged surface water would end up once sent downstream and how the surface water reacted with groundwater, hydrogeologic and dye-trace studies were planned by the “Hays Trinity Groundwater Conservation District

(HTGCD), City of Austin (CoA), Barton Springs/Edwards Aquifer Conservation District (BSEACD), and the Meadows Center for the Environment (Texas State University, TSU)" (Broun et al). In December of 2017, dye was injected into Onion Creek at several locations. Samples were taken from local wells to find any dye and to determine the source. The early results from the experiment showed that Onion Creek was connected to wells that were supplying water to several homes. Clear evidence was presented to support the opposition of the Dripping Springs permit when Sharon Darley, a woman whose water comes directly from the Trinity Aquifer, frighteningly discovered her water to be bright pink just twenty-four hours after red dye was injected into Onion Creek. The "Pepto-Bismol pink" water was flowing from her sinks and faucets, as well as the water used for her family's barn (Lanmon). The initial results of the dye-trace test demonstrated that "dumping treated wastewater into the creek will directly impact some homes that use well water," and it would put many people's water supply at risk (Lanmon). If small dye tests could turn someone's water bright pink, people are fearful of what nearly a million gallons a day of treated effluent could do!

The proven possibility that treated wastewater could end up in drinking water raises concerns as to the level of treatment of that wastewater, the possible things that would not be filtered out (household chemicals and pharmaceuticals), and the potential for treatment plant failure. As it is clear that the drafted permit by the city of Dripping Springs will have negative effects on Onion Creek, alternatives are being proposed in hopes of avoiding this daily discharge from happening. One of the solutions is to continue to irrigate using treated wastewater underground, or to continue spraying it onto land, which both are much "less likely to pollute nearby creeks" (King). Another potential alternative is called "direct potable reuse" (Price). This solution would bring the treated wastewater "directly piped back to a water treatment plant," completely

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avoiding the creek and following the example of several other communities in California and Texas (Price).

I believe that there are several options in handling the growth of Dripping Springs that do not involve harming Onion Creek or the people who love it. I have attended city council and TCEQ meetings as well as Dripping Springs Town Hall Meetings and I am disappointed that the City of Dripping Springs has done zero scientific research to justify the permit. The evidence that I have seen and read makes it clear that “any dumping could pose a risk to the area’s drinking water supply and cause algae blooms that would threaten wildlife” (Goldenstein). I am passionate about saving this creek because of what it means to me and because I believe my family, friends, and community are at risk. People need to become informed and recognize that pollution prevention is crucial when it comes to saving Onion Creek, as well as other creeks out there that are facing the same issue. The bottom line is that adults are not the only ones being affected by a potential treated wastewater discharge. Future generations are going to have to live and pay the price for the decisions that are made now. I can only hope that the adults act responsibly and protect Onion Creek!

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