

CAUSE NO D-1-GN-19-003030

IN THE 459TH JUDICIAL DISTRICT COURT
OF TRAVIS COUNTY, TEXAS

SAVE OUR SPRINGS ALLIANCE, INC.,
Plaintiff,

v.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY,
Defendant.

On Judicial Review from the
Texas Commission on Environmental Quality
TCEQ Docket No. 2017-1749-MWD

**AMICI CURIAE BRIEF OF STEPHANIE RYDER MORRIS, TEXAS
RIVERS PROTECTION ASSOCIATION, GREATER EDWARDS
AQUIFER ALLIANCE, SAN MARCOS RIVER FOUNDATION,
WIMBERLEY VALLEY WATERSHED ASSOCIATION, PROTECT OUR
BLANCO, AND FRIENDS OF HONDO CANYON**

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- San Antonio Bay Estuarine Waterkeeper, et. al v. Formosa Plastics Corp., et al.*,
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Federal Regulations

- 40 C.F.R. § 131.1223

State Regulations

- 30 Tex. Admin. Code § 307.410
- 30 Tex. Admin. Code § 307.5 23, 24
- Haw. Code. R § 11-54-5.2.21
- Mont. Dep't of Env'tl. Quality, Department Circular DEQ-12A, *Montana Base
Numeric Nutrient Standards*, Table 12A-1, 3-4 (July 2014)21
- N.M Code R. § 20.6.4.10921

Other Authorities

- EPA, Ambient Water Quality Criteria Recommendations (2001)19
- EPA, Enforcement and Compliance History Online, Detailed Facility Report,
Liberty Hill Regional WWTP, <https://echo.epa.gov/detailed-facility-report?fid=110034063091>5
- EPA, *Nutrient Pollution: The Issues*, <https://www.epa.gov/nutrientpollution/issue>
.....19
- EPA, *Renewed Call to Action to Reduce Nutrient Pollution and Support for
Incremental Actions to Protect Water Quality and Public Health* (Sept. 22,
2016), <https://www.epa.gov/sites/production/files/2016-09/documents/renewed-call-nutrient-memo-2016.pdf>.....19
- Jeffrey Mabe, U.S. Geological Surv., *Nutrient and Biological Conditions of
Selected Small Streams in the Edwards Plateau, Central Texas, 2005–06, and
Implications for Development of Nutrient Criteria: Scientific Investigations
Report 2007-5195*, 12-14 (2007)..... 4, 19, 22
- Jennifer Peterson, et al., Tex. A&M Extension, *Texas Watershed Steward
Handbook*, [http://agrilife.org/tws/files/2017/08/TWS-Curriculum-
Handbook_2017_COMPRESSED.pdf](http://agrilife.org/tws/files/2017/08/TWS-Curriculum-Handbook_2017_COMPRESSED.pdf)..... 20, 22
- Merriam-Webster Dictionary, <https://www.merriam-webster.com>24
- Nat'l Ocean Serv., Nat'l Oceanic & Atmospheric Admin., *What is nutrient
pollution*, <https://oceanservice.noaa.gov/facts/nutpollution.html>20
- Tex. Parks and Wildlife Dep't, *Texas River Guide*,
<https://tpwd.texas.gov/landwater/water/habitats/rivers/>1, 2

U.S. Geological Surv., *Dissolved Oxygen and Water*,
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GLOSSARY OF TECHNICAL TERMS AND ACRONYMS

AR	Administrative Record
EPA	Environmental Protection Agency
Eutrophic	A water body characterized by high nutrient levels, with high algae growth and periods of low dissolved oxygen.
Eutrophication	The process by which a body of water becomes enriched in dissolved nutrients that stimulate the growth of aquatic plant life, usually resulting in the depletion of dissolved oxygen.
mg/l	Milligrams per liter
MGD	Million gallons a day
Oligotrophic	A water body with very low naturally occurring nutrient levels, with a resulting low level of algae growth and high water clarity.
Tier 1 Review	Review conducted to determine if a proposed discharge would impair existing uses of a water body, under 30 TAC § 307.5(b)(1).
Tier 2 Review	Review conducted to determine if a proposed discharge would degrade water quality of high-quality waters beyond a <i>de minimis</i> extent, under 30 TAC § 307.5(b)(2).
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TPDES	Texas Pollutant Discharge Elimination System
USGS	United States Geological Survey
WWTP	Wastewater Treatment Plant

I. SUMMARY

The Texas Commission on Environmental Quality (TCEQ) order permitting the City of Dripping Springs to discharge treated wastewater effluent into Onion Creek violates the Clean Water Act, memorializes an illegal interpretation of the Texas Surface Water Quality Standards, and harms the property rights of riverfront property owners on 191,000 miles of Texas landscape.¹ Amici curiae Stephanie Ryder Morris, Texas Rivers Protection Association, Greater Edwards Aquifer Alliance, San Marcos River Foundation, Wimberley Valley Watershed Alliance, Protect Our Blanco, and Friends of Hondo Canyon urge the Court to reverse the decision and hold that the proposed discharges do not comply with Texas permitting requirements as a matter of law.

This case has broad significance. At least nine wastewater discharge permit applications for discharges into waters in the Texas Hill Country are currently pending at TCEQ.² Whether TCEQ will ensure that these permits comply with the water quality standards depends on the results of this case. The proposed permits would authorize discharges of 3,579,000 gallons of treated effluent into the Medina

¹ Tex. Parks & Wildlife Dep't, *Texas River Guide*, <https://tpwd.texas.gov/landwater/water/habitats/rivers/> (last visited Jan. 24, 2020).

² TPDES permit applications of Aqua Utilities, Inc. (WQ0005206000), Sawyer-Cleveland Partnership, Ltd. (WQ001559400), Camp Recovery Centers, LLC (WQ0013449001), DTB Investments, LP (WQ0015092001), RR 417, LLC (WQ001571300), U.S. Department of the Air Force (WQ0012074001), South Central Water Company (WQ0014988001), Kendall West Utility, LLC (WQ0015787001), and the City of Blanco (WQ0010549002).

River, Cibolo Creek/San Antonio River, Barton Creek/Colorado River, Verde Creek/Guadalupe River, Hondo Creek/Frio River, Canyon Lake and the Blanco River collectively each day.³

II. INTERESTS OF AMICI

Amici are an individual and organizations who seek to keep Texas rivers and streams clean, swimmable, and free of invasive algae caused by wastewater discharges that have not been appropriately regulated.

A. Stephanie Morris

Amicus Morris owns a home and practices beekeeping on 5.2 acres in Williamson County, Texas, on the shoreline of the South Fork San Gabriel River, a naturally clear, low-flowing stream. Her property includes half the streambed of the San Gabriel. Her property line is approximately 1/4 mile downstream of the wastewater discharge point of the City of Liberty Hill. She has experienced firsthand how excessive algae growth limits the use of and harms the aesthetic value of Texas streams. She understands why the water quality standards must be given proper legal interpretation to protect Texas's 3,700 named streams and 15 major rivers.⁴ If the TCEQ is not required to undertake the mandated Tier 1 and Tier 2 antidegradation review of the effect of a wastewater discharge on the relevant streams, and the water

³ *Id.*

⁴ Tex. Parks & Wildlife, *supra* note 1.

quality standards are interpreted to mean that more algae in a river is allowed because a steady stream of wastewater in an intermittent stream leads to “species richness,”⁵ then clear, intermittent streams in Texas will be a thing of the past. This approach directly contradicts state and federal law, which requires protection of Texas waters, not their state-sanctioned degradation.

The Morris family moved from Austin to Leander to give their children greater access to nature. They chose the property because of its view and access to the clear and shallow San Gabriel River. Ms. Morris’s four children, ages ten to twenty-one, enjoy wading, fishing, tubing and playing in the river and on its banks. The river in its natural state, free of degradation, is important to Ms. Morris and her enjoyment of her property. A degraded river diminishes Ms. Morris’s uses of the river and the aesthetic value of the river. The degradation of the river also decreases Ms. Morris’s property value. While TCEQ and Dripping Springs may argue that Ms. Morris can simply file a nuisance/takings claim against the City of Liberty Hill, that flips the goal of the Clean Water Act and the Texas Pollutant Discharge Elimination System (TPDES) permitting on its head. TCEQ’s job is to *prevent* stream degradation, not to set up a system where downstream landowners’ common law and statutory claims are preserved and they may try to obtain money for

⁵ Plf. App’x 3 Proposal for Decision at 16 (AR A, Doc. 162).

diminished property value, instead of knowing that the state will protect the native water quality, as required by law.

Since Ms. Morris has lived in Leander, the discharges by the City of Liberty Hill into the San Gabriel have increased in volume, and the river in front of her house is now regularly replete with algae, even when the City is in compliance with the nutrient levels (phosphorus and nitrogen⁶) in its permit. (Both nutrients cause algal growth, though phosphorus appears to be the key contaminant in predicting excessive algae growth in Texas streams.⁷) This case presents not just a hypothetical argument about stream quality, but instead the real world results of noncompliant regulation of the discharge of phosphorus into clear, low-flow Texas streams. Liberty Hill is currently permitted to discharge 1.2 million gallons a day (MGD) of wastewater with a daily average limit of 0.5 mg/l concentration of phosphorus, but the City of Liberty Hill's permit will allow it to discharge up to 4.0 MGD of effluent at the same 0.15 mg/l concentration of phosphorus at issue in this proceeding.⁸

⁶ The City of Liberty Hill's wastewater permit has limits and/or reporting requirements for ammonia nitrogen, nitrate-nitrogen, and total nitrogen. Here and henceforth any mention of nitrogen is meant to encompass all relevant types of nitrogen.

⁷ Jeffrey Mabe, U.S. Geological Surv., *Nutrient and Biological Conditions of Selected Small Streams in the Edwards Plateau, Central Texas, 2005–06, and Implications for Development of Nutrient Criteria: Scientific Investigations Report 2007-5195*, 12-14 (2007). Plf. App'x 19 at 12-14 (AR B, Doc. 269) [hereinafter Mabe USGS Study].

⁸ Liberty Hill's permit allows for multiple phases. Initially, the City could discharge 0.4 MGD. It is now permitted to discharge 1.2 MGD, and once it enters the final phase, it will be discharging 4.0 MGD of treated effluent into the South Fork of the San Gabriel River. See Liberty Hill's TPDES permit no. WQ0014477001 for more details.

Ms. Morris has taken thousands of photos and dozens of videos capturing the degradation caused by discharges into the San Gabriel. (Appendix A includes other photographs showing the ongoing algal problems in the San Gabriel.) The photos attached capture water quality upstream and downstream of the Liberty Hill's discharge point, when the plant is *in compliance* with its TCEQ permitted nutrient limits.⁹ Note that the algae photos included in this brief are taken during interim phase II, while the City is allowed to discharge up to 1.2 MGD of wastewater at a 0.5 mg/l concentration of phosphorus:

⁹ Based on the data available on EPA's ECHO website, Liberty Hill was in compliance with all nutrient limits in its permit during the months in which the photos in the brief and appendix were taken. EPA, Enforcement and Compliance History Online, Detailed Facility Report, Liberty Hill Regional WWTP, <https://echo.epa.gov/detailed-facility-report?fid=110034063091> (last visited February 27, 2020).

Approximately 988 feet¹⁰ upstream of the Liberty Hill wastewater treatment plant (WWTP) outfall on the San Gabriel River – August 19, 2019



¹⁰ All measurements are estimates created using GIS software and are calculated based on the location of a specific photo taken by Ms. Morris in front of one portion of the Liberty Hill outfall. Coordinates of each photo were taken from the metadata attached to each photo by Ms. Morris's iPhone. Distance is measured in a straight line, not along the course of the river.

**Approximately 68 feet across from the Liberty Hill WWTP outfall
on the San Gabriel River, facing the outfall – August 19, 2019**



**Approximately 255 feet downstream of the Liberty Hill WWTP outfall
on the San Gabriel River – August 19, 2019**



**Approximately 1275 feet downstream of the Liberty Hill WWTP outfall
on the San Gabriel River (taken from Ms. Morris's property)
August 19, 2019**



TCEQ has already issued a notice of enforcement to the City of Liberty Hill, citing violations of various general criteria under the Texas Administrative Code, such as the requirement to maintain surface waters “in an aesthetically attractive condition” and prevent nutrients in discharges from “caus[ing] excessive growth of

aquatic vegetation that impairs an existing, designated, presumed or attainable use.”¹¹ The enforcement action also includes the release of sludge by the City.

The City of Liberty Hill currently has an application to renew its TPDES permit with a minor amendment pending at TCEQ. Whether TCEQ is required to apply the water quality standards and adequately perform Tier 1 and Tier 2 anti-degradation review as required by law affects Ms. Morris’s rights.

B. Texas Rivers Protection Association

Texas Rivers Protection Association (TRPA) is a non-profit organization with approximately 500 members across the state of Texas. TRPA’s mission is to protect the flow, water quality, and natural beauty of the rivers of Texas. TRPA sponsors river clean-ups, engages in public outreach and education to its members and the public concerning preservation of water quality in Texas rivers and streams, and participates in wastewater permitting cases. TRPA is currently involved in challenging wastewater discharges into the San Marcos River from the City of Cherryville and the Baugh Ranch. TRPA is also contesting wastewater discharge permits sought by the cities of Tarpley and Blanco, and the group challenged the recently withdrawn discharge permit for Silesia Properties for a discharge into Honey Creek. The decision in this case as to the scope of TCEQ’s antidegradation review will affect TRPA’s efforts to protect water quality in Texas rivers.

¹¹ 30 Tex. Admin. Code §§ 307.4(b)(4) and 307.4(e).

C. Greater Edwards Aquifer Alliance

The Greater Edwards Aquifer Alliance (GEAA) unites thousands of citizens to promote effective, broad-based advocacy for aquifer protection throughout the twenty-one county Edwards Aquifer region, building statewide support for conservation and sustainable management of the Edwards and Trinity aquifers, springs, streams, and contributing watersheds, flora and fauna, and the quality of life, history, and culture of the Texas Hill Country. Over the years GEAA has engaged with hundreds of individuals to contest TPDES permits that would negatively impact receiving water bodies and hence, property values, use and enjoyment of property, and, in the case of losing streams, the safe use of untreated groundwater in wells used for potable consumption. GEAA is currently opposing issuance of four TPDES permits that would allow discharge into Hill Country streams. The proper interpretation and application of TCEQ's water quality standards directly affects GEAA and its members.

Algal impacts to Cibolo Creek resulting from wastewater discharges have been documented by GEAA in the comparison photos below.

**Algae on Cibolo Creek just below the Edgebrook Wastewater Treatment
Plant outfall - March 2, 2019**



Aerial photo from 2017 of the same section of Cibolo Creek, prior to effluent discharge



D. San Marcos River Foundation

The San Marcos River Foundation (SMRF) is a non-profit dedicated to protecting public access and preserving the flow, beauty, and purity of the San Marcos River since 1985. SMRF has successfully participated in wastewater permitting processes, including securing higher treatment standards for phosphorus in the wastewater discharged by the City of San Marcos into the San Marcos River. SMRF is currently involved in the permitting processes for four discharges into intermittent streams that flow into the San Marcos River. SMRF is concerned that, rather than complying with its statutory obligation to protect water quality standards,

TCEQ seems to believe it can allow discharges that do not protect existing uses or the quality of fishable/swimmable streams, leaving adjacent landowners to file lawsuits against dischargers after the discharges have adversely affected water quality. The decision in this case will affect SMRF's ability to protect water quality in the San Marcos River.

E. Wimberley Valley Watershed Alliance

Wimberley Valley Watershed Association (WVWA) is a non-profit organization that works to protect the Trinity and Edwards Aquifers, their springs and contributing streams, and the natural and cultural heritage of the Hill Country region and its watersheds. WVWA has members who live and recreate in the area of the City of Dripping Springs's wastewater treatment outfall, including on Onion Creek, and would be adversely affected by the City of Drippings Springs's application. WVWA is opposed to the permit because of the harm it would cause Onion Creek, the Trinity Aquifer, and ultimately, the Edwards Aquifer. WVWA also has members throughout the Texas Hill Country and is a member organization of Protect Our Blanco, described in more detail below. Together, they are currently challenging an application by the City of Blanco to discharge 1.6 million gallons of wastewater per day into the Blanco River. As in the present case, the TCEQ has claimed that this discharge would not violate antidegradation requirements. The

proper interpretation and application of the water quality standards directly affects WVWA and its members.

F. Protect Our Blanco

Protect Our Blanco (POB) is a non-profit corporation organized to protect public health, the environment, and quality of life for residents in Kendall, Blanco, and Hays counties, with a special emphasis on preserving the existing pristine nature of the Blanco River. The Blanco River is an iconic Hill Country river, flowing through the towns of Blanco and Wimberley before emptying into the San Marcos River. Like many Hill Country waterways, the Blanco River experiences significant variability in its flow, but its clear waters make it, and the natural areas its supports, an attraction for locals and visitors.

POB is dedicated to preserving the Blanco River as a valuable natural resource used for recreational activities, as a contributing source to aquifers and drinking water wells, and as valuable wildlife habitat. POB's mission includes protecting its members' interests in the use and enjoyment of these resources and protecting the use and enjoyment of its members' properties. POB formed in response to the problems with the City of Blanco's wastewater treatment plant, a plant located only 25 miles west of Dripping Springs. Many downstream businesses depend on the aesthetic and recreational value of the Blanco River, while other POB members live

on the Blanco River or otherwise use their property to access the river, where they, their families, and guests swim, boat, fish, birdwatch, and enjoy its natural beauty.

Much like the City of Liberty Hill, the City of Blanco has already received a permit from the TCEQ that authorizes them to discharge up to 0.225 MGD of wastewater into the Blanco River. The City of Blanco's current permit, granted in April 2015, does not contain a limit on total phosphorus or total nitrogen. Records from the City show that the City of Blanco's voluntary practice has been to regularly land apply much of its effluent or otherwise use it for irrigation on property near its plant location. However, recent algae blooms have coincided with the City's apparent reversal of this policy. In November 2018, the City of Blanco suddenly began discharging on average more than 150,000 gallons of effluent per day into the Blanco River, and only a few months later, in late February/early March 2019, POB members noticed an algae bloom downstream from the City of Blanco's wastewater outfall. In response to complaints, the TCEQ investigated and determined only that the City of Blanco was meeting the effluent limits set by its 2015 permit.

The City of Blanco has now applied to renew its permit, increase its total permitted discharge by more than seven times—to 1.6 MGD—and remove any irrigation requirement. Under the draft permit prepared by the TCEQ, total phosphorus would be limited to a daily average of 0.5 mg/l in the initial phase and 0.15 mg/l in the final phase, but the draft permit contains no limit on total nitrogen.

As in the Dripping Springs case, TCEQ has claimed that this discharge would not violate antidegradation requirements. Together with WVWA, POB is challenging the City of Blanco's application. The proper interpretation and application of water quality standards directly affects POB members.

G. Friends of Hondo Canyon

Friends of Hondo Canyon (FOHC) is a 501(c)(3) non-profit organization that was formed to protect and preserve the creeks in Hondo Canyon as valuable natural resources used for swimming, fishing, wildlife habitat, and as contributing sources to aquifers and drinking water wells. Hondo Canyon is located in the Upper Nueces River Basin in the Texas Hill Country west of San Antonio. Like the Blanco River, the pristine waterways in the Upper Nueces River Basin support multiple parks and natural areas that draw visitors to the area and support business and recreational uses by local residents.

FOHC's focus has been on Commissioner's Creek, which is a small spring-fed tributary to Hondo Creek, where a summer camp is being constructed near the creek's headwaters. FOHC has several members who own property or live directly downstream from the proposed discharge point and depend on the clear, clean water in Commissioner's Creek. The applicant for the summer camp, RR 417 LLC, has applied to TCEQ for a discharge permit that would authorize the discharge of 49,000 gallons of wastewater into Commissioner's Creek. Although the total volume is

smaller than that proposed in Dripping Springs or Blanco, Commissioner's Creek is a much smaller waterway, whose headwaters have been dammed by the applicant, further reducing the flow and potentially increasing the ratio of effluent to natural flow. Despite recorded background levels in the Commissioner's Creek of less than 0.04 mg/l of total phosphorus,¹² the TCEQ draft discharge permit limits total phosphorus at 0.5 mg/l. The draft permit does not contain a total nitrogen limit.

Because of FOHC's efforts alone, RR 417 LLC has agreed to limit the discharge such that 75 percent of the effluent will be used for irrigation; however, there are currently no discharge permits operating in the Upper Nueces River Basin. Other facilities dispose of their effluent by irrigation and evaporation. For all these reasons, FOHC is challenging the application by RR 417 LLC to discharge wastewater effluent into Commissioner's Creek. As in the present case, TCEQ has claimed that this discharge would not violate antidegradation requirements. The proper interpretation and application of water quality standards directly affects FOHC and its members, as they are trying to protect the headwaters of a high-quality, pristine creek.

III. ARGUMENT

A. TCEQ's Decision Dangerously Conflicts with Agreed Scientific Consensus Regarding the Adverse Effect of Nutrients on Streams

¹² Analysis by the Edwards Aquifer Authority found phosphorus to be undetectable, even at detection limits of 0.02 mg/l.

There is no debate that excessive nutrient pollution causes serious damage to bodies of water.¹³ The U.S. Environmental Protection Agency (EPA) explains:

Nutrient pollution is one of America's most widespread, costly and challenging environmental problems, and is caused by excess nitrogen and phosphorus in the air and water. . . . Too much nitrogen and phosphorus in the water causes algae to grow faster than ecosystems can handle. Significant increases in algae harm water quality, food resources and habitats, and decrease the oxygen that fish and other aquatic life need to survive.¹⁴

The United States Geological Survey (USGS) has similarly stated that:

¹³ EPA, *Renewed Call to Action to Reduce Nutrient Pollution and Support for Incremental Actions to Protect Water Quality and Public Health* (Sept. 22, 2016), <https://www.epa.gov/sites/production/files/2016-09/documents/renewed-call-nutrient-memo-2016.pdf> (“Nutrient pollution remains one of the greatest challenges to our Nation’s water quality and presents a growing threat to public health and local economies - contributing to toxic harmful algal blooms, contamination of drinking water sources, and costly impacts on recreation, tourism and fisheries.”); EPA, *Ambient Water Quality Criteria Recommendations at 1* (2001) (Ross Exhibit Q), AR B, Doc. 269, at 181 (“Nutrients are essential to the health and diversity of surface waters. However, in excessive amounts nutrients cause eutrophication or hypereutrophication, which results in overgrowth of plant life and decline of the biological community. Excessive nutrients can also result in human health risks, such as the growth of harmful algal blooms....Chronic nutrient overenrichment of a waterbody can lead to the following consequences: algal blooms, low dissolved oxygen, fish kills, overabundance of macrophytes, likely increased sedimentation, and species shifts of both flora and fauna....Historically, National Water Quality Inventories have repeatedly shown that nutrients are a major cause of ambient water quality use impairments. EPA’s 1996 National Water Quality Inventory report identifies excessive nutrients as the leading cause of impairment in lakes and the second leading cause of impairment in rivers (behind siltation).”); Mabe USGS Study, *supra* note 7, at 1-2 (“Nutrients, broadly defined, are chemical elements essential to the growth, reproduction, and metabolic processes of living organisms. Aquatic ecosystems require nutrients to support the biological communities they contain. However, overabundant nutrients can contribute to various water-quality problems. Excessive amounts of nitrogen or phosphorus, or both, can promote the growth of aquatic vegetation and result in problems ranging from degraded water quality and altered aquatic habitats to a loss of recreational and aesthetic value. Recent water-quality inventories compiled by the U.S. Environmental Protection Agency (USEPA) identify nutrient enrichment as one of the leading causes of water-resource impairment in the Nation (U.S. Environmental Protection Agency, 1996, 1998a, 2000).”).

¹⁴ EPA, *Nutrient Pollution: The Issues*, <https://www.epa.gov/nutrientpollution/issue> (last visited Jan. 24, 2020).

Excessive nutrients, such as phosphorus and nitrogen (including ammonia), can cause eutrophication, or over-fertilization of receiving waters, which can be toxic to aquatic organisms, promote excessive plant growth, reduce available oxygen, harm spawning grounds, alter habitat and lead to a decline in certain species...¹⁵

These statements are echoed by the National Oceanic and Atmospheric Administration, which has similarly confirmed that human discharges result in “nutrient pollution” that leads to excessive algal growth.¹⁶ The Texas A&M handbook, used to train “watershed stewards,” likewise explains:

The over-enrichment of water with nutrients is called eutrophication. A massive growth of aquatic plant life can make water extremely murky and raise its temperature. When the plants die and start to decompose, bacteria begin to use up all of the oxygen in the water. The oxygen level can become so low (a condition known as hypoxia) that many types of fish, insects and other animals can no longer survive. Common sources of nitrates include commercial fertilizers, wastewater treatment plants, animal wastes, septic systems, and decaying plant residues (e.g., compost).¹⁷

Other states have recognized the harm that can be caused by excessive phosphorus concentrations and have set limits on the amount of phosphorus in

¹⁵ U.S. Geological Surv., *Wastewater Treatment Water Use*, <https://www.usgs.gov/special-topic/water-science-school/science/wastewater-treatment-water-use> (last visited Jan. 24, 2020).

¹⁶ Nat’l Ocean Serv., Nat’l Oceanic & Atmospheric Admin., *What is nutrient pollution*, <https://oceanservice.noaa.gov/facts/nutpollution.html> (last visited Jan. 24, 2020) (“Nutrient pollution is the process where too many nutrients, mainly **nitrogen and phosphorus**, are added to bodies of water and can act like fertilizer, causing **excessive growth of algae**. ... Scientists are most interested in the nutrients that are related to people living in the coastal zone because human-related inputs are much greater than natural inputs.”)(emphasis in original).

¹⁷ Jennifer Peterson, et al., Tex. A&M Extension, *Texas Watershed Steward Handbook*, http://agrilife.org/tws/files/2017/08/TWS-Curriculum-Handbook_2017_COMPRESSED.pdf at 29.

discharges to local streams that are lower than those required by TCEQ in this case. For instance, Montana sets concentration rates during warm months for total phosphorus at 0.025 mg/l to 0.15 mg/l, depending on the ecoregion.¹⁸ Hawaii sets phosphorus concentrations at 0.05 mg/l during the wet season and 0.03 mg/l during the dry season.¹⁹ New Mexico has a 0.1 mg/l standard for certain streams.²⁰ In comparison, the Dripping Springs permit allows 0.15 mg/l total phosphorus.

The TCEQ's decision in this case ignores this well-established science and instead mischaracterizes the negative impacts of eutrophication as beneficial for Onion Creek. The Proposal for Decision (PFD) cites a 2007 USGS study of Hill Country streams as supporting a finding of the "positive impact of wastewater on aquatic life in providing 'nutrient enrichment' and 'consistently stable streamflow,' which lead to greater 'species richness.'"²¹ The Mabe USGS study does state that effluent discharges into an intermittent stream can make flow more regular and increase nutrients, which is likely to result in algae growth, which will lead to more species in the stream. But to claim that this eutrophication *protects* water quality is blasphemous. In fact, Mabe explains in the same USGS report, "[s]treams that did not receive wastewater effluent had relatively low nutrient concentrations and were

¹⁸ Mont. Dep't of Env'tl. Quality, Department Circular DEQ-12A, *Montana Base Numeric Nutrient Standards*, Table 12A-1, 3-4 (July 2014).

¹⁹ Haw. Code. R § 11-54-5.2.

²⁰ N.M Code R. § 20.6.4.109.

²¹ Plf. App'x 3 at 16 (AR A, Doc. 162)(citing Mabe USGS Study, *supra* note 7) .

classified as oligotrophic; streams receiving wastewater effluent had relatively high nutrient concentrations and were classified as eutrophic.”²² Part of the difference between an oligotrophic and eutrophic streams is the presence of algae; there is normally a sparse growth of algae in an oligotrophic stream. As already stated, the growth of algae in a body of water can lead to low levels of oxygen in those same waterbodies, as the algae dies off and the bacteria related to decomposition start using up oxygen.²³ Dissolved oxygen is often used to measure the health of a stream: with low dissolved oxygen levels can come the death of many aquatic species.²⁴ So while increased nutrient-loading may increase the growth of some organisms, it can also lead to the suffocation and elimination of others.

The purpose of the TPDES permit program is to protect streams in their natural state, which includes ensuring that eutrophication does *not* occur as a result of permitted discharges. Instead, the PFD touts the “greater ‘species richness’” in an algae-filled stream.²⁵ This is like saying that if an acre of desert land could be watered regularly, then there would be more species, and that would benefit the desert. The Clean Water Act and Texas Surface Water Quality Standards are not

²² Mabe USGS Study, *supra* note 7, at 1.

²³ Peterson, *supra* note 17, at 29.

²⁴ U.S. Geological Surv., *Dissolved Oxygen and Water*, <https://www.usgs.gov/special-topic/water-science-school/science/dissolved-oxygen-and-water> (February 25, 2020).

²⁵ Plf. App’x 3 at 16 (AR A, Doc. 162).

intended to encourage more species and constant stream flow, particularly when such results lead to a loss of *existing uses* of a stream or degradation of the stream.

TCEQ's analysis and interpretation in this case upends the purpose of the Clean Water Act, the state water quality standards, and antidegradation review, by allowing wastewater discharges that would degrade high water quality and alter the unique ecosystems of Texas streams and limit their longstanding uses by generations of Texans for recreation.

B. TCEQ Must Apply Water Quality Standards Completely and Accurately as Required by Law

It is crucial to the protection of waterways throughout the state that TCEQ be required to comply with the water quality standards in the Clean Water Act and the TCEQ's own rules, which require that: (1) existing uses and water quality be maintained and (2) no degradation of high quality waters that exceed fishable/swimmable standards be allowed without a demonstration that any reduction in quality is necessary for "important economic or social development."²⁶ As Justice O'Connor explained, the Clean Water Act requires that "a project be consistent with *both* components, namely, the designated use *and* the water quality criteria. Accordingly, under the literal terms of the statute, a project that does not

²⁶ 30 Tex. Admin. Code § 307.5. The federal rule requires that "water quality shall be maintained and protected" unless after full coordination and public participation the state finds that allowing lower water quality is "necessary to accommodate important economic or social development in the area in which the waters are located." 40 C.F.R. § 131.12.

comply with a designated use of the water does not comply with the applicable water quality standards.”²⁷

TCEQ’s regulations define degradation as the “lowering of water quality by more than a *de minimis* extent, but not to the extent that an existing use is impaired.”²⁸ The rules plainly require that “water quality sufficient to protect existing uses must be maintained.”²⁹ The water quality standards make it clear that TCEQ is required to ensure both that existing uses are maintained and that water quality is not lowered beyond a *de minimis* amount. Courts use the dictionary to clarify the meaning of undefined terms in TCEQ regulations.³⁰ The definition of *de minimis* is “lacking significance or importance: so minor as to merit disregard.”³¹

The record in this case demonstrates that TCEQ misapplied the law, failed to consider appropriate factors, and acted arbitrarily in finding that water quality in Onion Creek would not be degraded more than a *de minimis* amount. The only evidence of any water quality standards review by TCEQ is a two-page form in which the agency states that “*mean* measured concentrations from least disturbed

²⁷ *PUD No. 1 of Jefferson Cty. v. Wash. Dep’t of Ecology*, 511 U.S. 700, 715 (1994).

²⁸ 30 Tex. Admin. Code § 307.5(b)(2).

²⁹ *Id.*

³⁰ See Memorandum and Order, *San Antonio Bay Estuarine Waterkeeper, et. al v. Formosa Plastics Corp., et al.*, (S.D. Tex. – Victoria, Civ. Action No. 6:17-CV-0047: June 27, 2019) at 5 (*Webster’s Dictionary* defines TPDES permit term restricting the discharge of more than “trace amounts” of floating solids).

³¹ *De minimis*, Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/de%20minimis> (last visited Feb. 3, 2020).

streams in the Edwards Plateau are 0.003 mg/l total phosphorus.”³² The form concludes, “Due to the clarity of the water column, lack of shade, and minimal dilution, a total phosphorus level of 0.15 mg/l of total phosphorus ... [is] proposed to protect Onion Creek from accumulation of excessive algae.”³³

The TCEQ states that the mean (or average) concentration of phosphorus in streams not polluted with wastewater discharges is 0.003 mg/l, but then inexplicably determines that a concentration 50 times that average is sufficient to prevent degradation of Onion Creek. The only reasoning offered for the 50 times determination are the statements preceding the determination of 0.15 mg/l that the receiving stream is: (1) clear, (2) sunny, and (3) has minimal dilution.

There is no explanation whether the agency determined that the stream is so clear that it can handle some degradation or how the clarity otherwise affects the ability of the stream to absorb 50 times the average stream concentration of phosphorus. Similarly, there is no explanation for how the fact that the stream is sunny (there is a lack of shade) and the phosphorus concentrations are correlated. Warmer streams normally have less dissolved oxygen³⁴ and presumably streams that receive more sunshine would be warmer than those that are shaded. Finally, TCEQ

³² Plf. App’x 20 (AR B, Doc. 260) (emphasis added).

³³ *Id.*

³⁴ U.S. Geological Surv., Dissolved Oxygen and Water, *supra* note 24.

states that there is “minimal dilution” in Onion Creek. In other words, the discharge will go into receiving waters with low flow. This means that the high concentrations of phosphorus (50 times that in the average stream) will remain concentrated after discharge because there is insufficient stream flow to reduce the concentration. TCEQ’s statements about clarity, lack of shade, and lack of dilution in Onion Creek in no way support its decision to allow the discharge of 50 times the average concentration of phosphorus into Onion Creek. The agency has clearly failed to properly apply the water quality standards and ensure both that existing uses are maintained, and that water quality is not degraded by more than a *de minimis* amount.

Amici have located only conclusory statements regarding TCEQ’s review of this permit. There is certainly no basis to find that the future degradation of the river caused by the proposed discharge will be “so minor as to merit disregard.”

C. Failure to Properly Apply Water Quality Standards Harms the Property Rights of Downstream Property Owners

The TCEQ order makes a number of findings concerning permits that authorize discharges of nutrients that may cause nuisance conditions and the impacts on downstream property owners’ rights.³⁵ Certainly, state law preserves for those downstream property owners whatever legal rights they had regardless of the permit.

³⁵ Plf. App’x 1 at 8, ¶¶60-62 (AR A, Doc. 169).

But while TCEQ's references to statutes are accurate, they mischaracterize the exercise of those legal rights by downstream property owners affected by waste discharges.

Affected downstream water users and property owners are forced to argue, after the discharges authorized by TCEQ have caused water quality degradation, that the governmental entities discharging the wastewater have created a nuisance and "taken" their property. A state-sanctioned nuisance sets the bar exceedingly high for downstream owners to assert their rights to use and enjoy their own property. Instead of preventing the damage before it is done, as is required by the law, TCEQ would abandon downstream property owners to an uphill fight to maintain their property rights and their property values.

D. The Relative Stringency of Nutrient Discharge Limits Is Not Sufficient on Its Own to Prove that a Permit Is Sufficiently Protective of the Water Quality Standards

The order granting the Dripping Springs permit repeatedly asserts that the nutrient limits within the Dripping Springs permit are some of the most stringent in Texas, as if this is relevant to determining whether the limits will protect the stream into which the WWTP discharges.³⁶ This is problematic for two reasons.

First, it is inaccurate. A 0.15 mg/l limit on phosphorus and a 6.0 mg/l limit on total nitrogen in a permit that allows discharge into a creek, no matter the

³⁶ See, e.g., Plf. App'x 1 at 7-8, ¶¶ 47-49, 52 (AR A, Doc. 169).

conditions, are not the most stringent limits in Texas. The strictest permits technically allow no discharge, and require land application, such as the permits for the West Travis County Public Utility Agency (Lake Point WWTF) and the Travis County Municipal Utility District No. 4 (Barton Creek WWTF).³⁷ Additionally, there is the Belterra permit, which only allows discharge under specific conditions (i.e., when the irrigation fields are saturated and there is a high level of flow in Bear Creek).³⁸

Second, the relative stringency of a permit's limits on nutrients *in the discharge* as compared to limits in other permits says absolutely nothing about whether those limits will be sufficiently low to protect the water quality of the specific waterbody that would be receiving the discharge. While other permits' discharge limits may be a relevant reference point, comparing discharge limits is not itself sufficient to ensure that antidegradation or other water quality standards are met: that requires an analysis of background water quality in the stream, and how that instream quality will be changed by the proposed discharge. When pre- and post-discharge water quality comparisons demonstrate a clear and significant increase in pollutants that will degrade a stream, this should plainly indicate to

³⁷ See TCEQ Texas Land Application permits nos. WQ0013594001 (which currently authorizes West Travis County Public Utility Agency to land apply 1.0 MGD, and will eventually allow for the disposal of 1.8 MGD via methods other than direct discharge) and WQ0013206001 (authorizing Travis County Municipal Utility District No. 4 to land apply 0.72 MGD rather than discharge that amount). WWTF stands for wastewater treatment facility.

³⁸ Plf. App'x 21 at 4-5 (AR B, Doc. 265 at 38-39).

TCEQ that it must set lower limits, regardless of the nutrient discharge limits in other permits.

IV. Conclusion

The federal government delegated to the TCEQ the right to permit discharges into Texas streams based on TCEQ's representation that the Texas Surface Water Quality Standards would be enforced and that only discharges that degrade water quality less than a *de minimis* amount would be allowed into high quality Texas streams. That legal standard must be honored and enforced so that Texas streams and rivers maintain their water quality and future generations of Texans can continue to enjoy fishing, swimming, and recreating in Texas waters.

Amici ask the court to find: (1) that TCEQ may not lawfully issue a wastewater discharge permit unless the agency assures that the permitted discharge would not impair existing uses and would not cause more than *de minimis* degradation of a high quality stream and (2) that TCEQ failed to comply with these antidegradation requirements in granting Dripping Springs a permit to discharge 822,500 gallons of treated sewage per day into Onion Creek.

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document has been served on this 28 day of February, 2020, in accordance with the Texas Rules of Civil Procedure, to the persons listed below, via electronic service.

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CERTIFICATE OF COMPLIANCE

I hereby certify that the above Amici Curiae Brief of Stephanie Ryder Morris, Texas Rivers Protection Association, Greater Edwards Aquifer Alliance, San Marcos River Foundation, Wimberly Valley Watershed Association, Protect Our Blanco, and Friends of Hondo Canyon contains 6141 words in the relevant parts of the document, in compliance with Texas Rule of Appellate Procedure 9.4(i), as calculated by the computer program used to prepare this document.

/s/ Lorraine Hoane

Lorraine Hoane

DISCLOSURE OF FEE PAID

I hereby certify that no fee has been paid or is to be paid for preparing this amici curiae brief. This disclosure is made in compliance with Texas Rule of Appellate Procedure 11.

/s/ *Lorraine Hoane*
Lorraine Hoane

Appendix A
Amici Curiae Brief

October 22, 2019
TCEQ Permitted Degradation of South Fork of San Gabriel River

Upstream and Downstream of Liberty Hill WWTP Discharge
Effluent in compliance with TCEQ permitted nutrient levels (nitrogen and phosphorus)



South Fork of the San Gabriel River, approx. 898 feet upstream of the Liberty Hill WWTP outfall, 10:25am, October 22, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, approx. 6 feet from the Liberty Hill WWTP outfall facing the outfall, 9:50am, October 22, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, approx. 649 feet downstream of the Liberty Hill WWTP outfall, 10:46am, October 22, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, taken from Ms. Morris's property - approx. 1285 feet downstream of the Liberty Hill WWTP outfall, 1:25pm, October 22, 2019 (photo taken by Stephanie Morris).

December 3, 2019
TCEQ Permitted Degradation of South Fork of San Gabriel River

Upstream and Downstream of Liberty Hill WWTP Discharge
Effluent in compliance with TCEQ permitted nutrient levels (nitrogen and phosphorus)



South Fork of the San Gabriel River, approx. 732 feet upstream of the Liberty Hill WWTP outfall, 2:05pm, December 3, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, approx. 560 feet downstream of the Liberty Hill WWTP outfall, 1:32pm, December 3, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, taken from Ms. Morris's property - approx. 1229 feet downstream of the Liberty Hill WWTP outfall, 12:58pm, December 3, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, approx. 9119 feet downstream of the Liberty Hill WWTP outfall, 10:51am, December 3, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, approx. 9194 feet downstream of the Liberty Hill WWTP outfall, 11:33am, December 3, 2019 (photo taken by Stephanie Morris).

December 20, 2019
TCEQ Permitted Degradation of South Fork of San Gabriel River

Upstream and Downstream of Liberty Hill WWTP Discharge
Effluent in compliance with TCEQ permitted nutrient levels (nitrogen and phosphorus)



South Fork of the San Gabriel River, approx. 504 feet upstream of the Liberty Hill WWTP outfall, 4:05pm, December 30, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, approx. 217 feet downstream from the Liberty Hill WWTP outfall, 3:43pm, December 30, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, approx. 2062 feet downstream of the Liberty Hill WWTP outfall, 12:26pm, December 30, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, approx. 1877 feet downstream of the Liberty Hill WWTP outfall, 12:19pm, December 30, 2019 (photo taken by Stephanie Morris).



South Fork of the San Gabriel River, approx. 1862 feet downstream of the Liberty Hill WWTP outfall, 12:18pm, December 30, 2019 (photo taken by Stephanie Morris).