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Preliminary Comments from Sierra Club Lone Star Chapter on the Texas Surface Water Quality Standards Ahead of the 2026 Triennial Revision Process

The Sierra Club Lone Star Chapter, representing more than 23,000 members in Texas, submits the following comments to the Texas Commission on Environmental Quality (TCEQ) in regard to its request for preliminary written comments on the Texas Surface Water Quality Standards (TSWQS) as part of the 2026 revision process. As the nation's oldest and largest conservation organization, the Sierra Club has been committed to environmental stewardship for many years. Since its establishment in 1965, the Sierra Club Lone Star Chapter has been actively involved in addressing water quality issues in Texas. We appreciate the opportunity to contribute our input to the triennial review of the TSWQS.

Ahead of the 2026 revision process, Texas Sierrans have identified several concerns, some of which were previously highlighted by the Lone Star Chapter in earlier revisions. As our state continues to grow and the pressure on water resources intensifies, it is essential to address such critical issues as pre-production plastics ("nurdles") pollution, the absence of numeric criteria for salinity standards, the need for stricter regulations on oil and gas wastewater discharge ("produced water"), a reassessment of recreational use categories, and the adoption of effective antidegradation policies.

1. **Discharge of *Any* Pre-production Plastic Pollution Poses Significant Risks to Public Health and the Environment**

One of the pressing issues that deserves special attention during this triennial review is pre-production plastics pollution in Texas waterways. After the language related to pre-production plastics pollution was removed from the previous SWQS, we strongly urge TCEQ to revisit and prioritize this critical issue. Sierra Club supports a renewed approach to mitigating pre-production plastics pollution which should prohibit the

discharge of *any* kind of plastic pollution in Texas waters, including microplastics that may not be visible to the naked eye.

Pre-production plastics, known as “nurdles,” are toxic to both humans and wildlife. As these particles break down into microplastics, they can bioaccumulate in ecosystems, adversely impacting aquatic life, fisheries, and the communities that rely on them. Recent studies suggest that microplastic exposure has detrimental effects on animals’ behavior, physiological condition, and immune system functioning.[1] Furthermore, emerging research increasingly links the presence of microplastics in the human body to heightened risks of cardiovascular diseases and other life-threatening health conditions.[2] If left unregulated, plastic pollution will continue to pose significant risks to wildlife and human health through consumption and bioaccumulation.

2. **Establishment of Numerical Criteria for Salinity is Essential to Protect Texas Bay Systems and Prevent Loss of Native Wildlife**

In this triennial review, it is imperative for TCEQ to adopt numerical salinity gradient criteria. With the ever-intensifying impacts of climate change, salinity levels in the Gulf Coast are expected to increase as a result of sea level rise and coastal erosion, negatively affecting native wildlife species that rely on Texas bay systems for their habitats.

In the previous review, TCEQ stated that “long-term salinity monitoring is still ongoing in accordance with §307.4(g)(3).” This response aligns with the current provision of the salinity standards outlined in §307.4(g), which has been in effect since *at least* 1997: “Numerical salinity criteria for Texas estuaries have not been established because of the high natural variability of salinity in estuarine systems, and because long-term studies by state agencies to assess estuarine salinities are still ongoing.” Given the nearly three decades of ongoing studies and the long-standing recognition of the need to establish a quality baseline for salinity gradients along the Texas coast, we request the release of the results of these studies to inform necessary action from TCEQ.

3. **Effective Measures and Regulatory Actions are Needed to Minimize Produced Water Discharge and Its Harmful Impacts on Aquatic Life and Public Health**

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[1] Sarkar, S., Diab, H., & Thompson, J. (2023). Microplastic Pollution: Chemical Characterization and Impact on Wildlife. (DOI: https://doi.org/10.3390/ijerph20031745)

[2] Marfella, R. M. et al. (2024). Microplastics and nanoplastics in atheromas and cardiovascular events. (DOI: 10.1056/NEJMoa2309822)

The Sierra Club firmly believes that the State of Texas should prohibit the discharge of produced water—whether treated or not—from oil and gas operations, given the substantial risks posed by toxic pollutants contained in such wastewater. To date, there is limited research assessing the health risks associated with produced water. However, the existing studies consistently indicate that produced water poses significant risks to human health[3,4]. Despite the limited scientific knowledge, TCEQ continues to grant permits for produced water discharge. Texans must be informed about the toxic chemicals that might be present in their drinking water, as well as the water they use and enjoy for recreation. To protect public health and ensure transparency and accountability, we urge TCEQ to fully disclose the complete list of chemicals discharged with produced water in Texas water bodies.

Furthermore, the current TSWQS do not address many of the chemicals potentially present in produced water. This raises questions about whether TCEQ has the requisite toxicity data to assess the impacts of produced water on human health. We urge TCEQ to conduct necessary studies to determine the baseline conditions for the toxic chemicals found in produced water. This will inform risk assessment and guide appropriate actions to mitigate any potential impacts of produced water on human health.

4. **Current Recreational Use Categories Are Inadequate for Addressing the Levels of Bacteria in Water**

The 2022 Texas Integrated Report indicates that 342 water bodies are currently impaired for bacteria, an increase from 322 in 2020. Additionally, 135 water bodies have depressed dissolved oxygen levels, which continues to put the health of aquatic ecosystems at risk. These numbers demonstrate that the current bacterial standards are insufficient to prevent more water bodies from becoming impaired. TCEQ's current division of recreational use categories contributes to this issue. By allowing higher levels of bacteria in water bodies not designated as "primary contact recreation 1," TCEQ effectively avoids classifying those segments as impaired and requiring the necessary TMDL action.

In response to the SWQS comments submitted by Sierra Club and partners in 2022, TCEQ stated that recreational use categories were expanded to better reflect varying levels of water recreation in Texas, referring to federal regulations specified in 40 CFR §131.10(c). We believe that this response is insufficient because it does not address the

[3] Jiang, W. et al. (2022). Characterization of produced water and surrounding surface water in the Permian Basin, the United States. (DOI: https://doi.org/10.1016/j.jhazmat.2022.128409)

[4] Burgos, W. D. et al. (2017). Watershed-scale impacts from surface water disposal of oil and gas wastewater in Western Pennsylvania. (DOI: 10.1021/acs.est.7b01696)

lack of clarity on how these recreational use subdivisions adequately protect public health and accurately assess water quality. We request TCEQ to revise the previous rollbacks of recreational use categories by consolidating contact recreation use categories at more stringent bacterial criteria to ensure safe recreation for Texans. While we acknowledge that this process will cause additional streams and reservoir segments to be added to the list of impaired waterbodies, we believe that these areas have been misclassified and should be subject to higher water quality standards.

5. The Current Antidegradation Policy Must be Revised to Protect Texas Waters

The Tier 2 antidegradation policy as currently codified in 30 TAC §307.5 effectively treats it similarly to Tier 1 antidegradation, despite Tier 2 antidegradation prohibiting all activities unless "lowering of water quality is necessary for important economic or social development."[5] TCEQ defines "degradation" as "a lowering of water quality by more than a de minimis extent."[6]

The subjective definition of the "de minimis" exception by TCEQ raises significant concerns. As currently defined, the "de minimis" exception undermines the purpose of the Tier 2 review set forth in 30 TAC § 307.5[7] by failing to establish clear, objective criteria for determining when degradation is acceptable and under what circumstances exceptions to water quality standards can be granted.

Given these discrepancies, we urge TCEQ to reconsider and clarify its approach to the Tier 2 review and the "de minimis' exception. Specifically, either the "de minimis" exception contained in 30 TAC § 307.5(b)(2) must be entirely removed, or the term "de minimis" must be explicitly defined by rule in an objective manner that enables meaningful evaluation and comment by the public. This step is crucial to ensuring transparency and accountability in regulatory decisions concerning water quality standards.

[5] 30 Tex. Admin. Code § 307.5(b)(2)
[6] CFR § 131.12(a)(2)
[7] Texas's antidegradation policy roughly parallels that of EPA. See 40 C.F.R. § 131.12(a)

Sierra Club thanks TCEQ for the opportunity to submit comments and urge TCEQ to consider more stringent measures to protect the health, safety, and welfare of Texans, our water, and wildlife.

Respectfully,

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