

## Produced Water Roundup

Welcome to the Produced Water Roundup, a proposed quarterly update from the Ground Water Research and Education Foundation and the Ground Water Protection Council Produced Water Taskforce.

The recently published studies represent work started in 2020 to the present. They include ongoing produced water research, treatment, regulatory, and data collection across multiple universities. This clearinghouse effort is intended to share information about ongoing research and foster collaboration between researchers, regulatory agencies, industry, and other stakeholders.

So, **Kick Up Your Heels** and enjoy the Quarterly Roundup!

1. **Jiang, W., Xu, X., Hall, R., Zhang, Y., Carroll, K.C., Ramos, F., Engle, M.A., Lin, L., Wang, H., Sayer, M., Xu, P. (2022).**, *“Characterization of Produced Water and Surrounding Surface Water in the Permian Basin, the United States. Journal of Hazardous Materials. 430, 128409. “(<https://doi.org/10.1016/j.jhazmat.2022.128409>).”*
2. **Hu, L., Jiang, W., Xu, X., Wang, H., Carroll, K.C., Xu, P., Zhang, Y. (2022).**, *“Toxicological characterization of produced water from the Permian Basin. Science of The Total Environment. 815(1), 152943. “(<https://doi.org/10.1016/j.scitotenv.2022.152943>).”*
3. **Chen, L., Wang, H., Xu, P. (2022).**, *“Photocatalytic membrane reactors for produced water treatment and reuse: fundamentals, affecting factors, rational design, and evaluation metrics. Journal of Hazardous Materials, 127493.”*
4. **Bridget R. Scanlon, Robert C. Reedy, Brad D. Wolaver (2022).**, *“Assessing cumulative water impacts from shale oil and gas production: Permian Basin case study. “(<https://www.sciencedirect.com/science/article/abs/pii/S0048969721073824>).”*
5. **Brett D. Van Houghton, Shwetha M. Acharya, James S. Rosenblum, Romy Chakraborty, Susannah Green Tringe, Tzahi Y. Cath. (2022).**, *“Membrane Bioreactor Pretreatment of High-Salinity O&G Produced Water. “(<https://pubs.acs.org/doi/10.1021/acsestwater.1c00436>).”*
6. **Cooper, C. M.; McCall, J.; Stokes, S. C.; McKay, C.; Bentley, M. J.; Rosenblum, J. S.; Blewett, T. A.; Huang, Z.; Miara, A.; Talmadge, M.; Evans, A.; Sitterley, K. A.; Kurup, P.; Stokes-Draut, J. R.; Macknick, J.; Borch, T.; Cath, T. Y.; Katz, L. E. (2022).**, *“Oil and Gas Produced Water Reuse: Opportunities, Treatment Needs, and Challenges. ACS ES&T Engineering “(<https://pubs.acs.org/doi/abs/10.1021/acsestengg.1c00248>).”*

7. **Jiang, W., Pokharel, B., Lin, L., Cao, H., Carroll, K.C., Zhang, Y., Galdeano, C., Musale, D.A., Ghurye, G.L., Xu, P. (2021).**, *“Analysis and Prediction of Produced Water Quantity and Quality in the Permian Basin using Machine Learning Techniques. Science of the Total Environment.”* 141693.
8. **Jiang, W., Lin, L., Xu, X., Cheng, X., Zhang, Y., Hall, R., Xu, P. (2021).**, *“A Critical Review of Analytical Methods for Comprehensive Characterization of Produced Water. Water, 2021, 13(2), 183; “(<https://doi.org/10.3390/w13020183>).”*
9. **Chen, L., Xu, P., Kota, K., Kuravi, S., Wang, H. (2021).**, *“Solar distillation of highly saline produced water using low-cost and high-performance carbon black and airlaid paper-based evaporator (CAPER). Chemosphere, 269, 129372. “(<https://doi.org/10.1016/j.chemosphere.2020.129372>).”*
10. **Hu, L., Wang, H., Xu, P. and Zhang, Y. (2021).**, *“Biomineralization of hypersaline produced water using microbially induced calcite precipitation. Water Research, 190, 116753. “(<https://doi.org/10.1016/j.watres.2020.116753>).”*
11. **Mumford, A.C., Akob, D.M., Farag, A.F., Harper, D.D., Cozzarelli, I.M., Kent, D., Schaeffer, T., and Iwanowicz, L.R. (2021).**, *“Microbial Community Composition Data from Blacktail Creek near Williston, North Dakota: U.S. Geological Survey data release, (<https://doi.org/10.5066/P9H5UUX2>).”*

**Additional information for your leisure:**

**Upcoming GWPC Annual Conference**

<https://www.gwpc.org/>

**Texas Produced Water Consortium**

<https://www.depts.ttu.edu/research/tx-water-consortium/>