

Stephen R. Hutchins, Research Environmental Scientist in EPA's National Risk Management Research Laboratory

Groundwater, Watershed, and Ecosystem Restoration Division

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Area of Expertise:

Concentrated animal feeding operations (CAFOs) and effects of CAFOs on groundwater quality. This field-based project is designed to evaluate whether land application of swine waste at selected commercial facilities can adversely affect groundwater quality. The focus is not only on nutrients, but feed antibiotics and natural and synthetic hormones. Results from this research program will be used to help determine whether groundwater aquifers are at risk from these types of operations and to aid in the development of sound risk management strategies for optimizing land use practices in the animal industry.

Select Publications:

Hutchins, S. R., M. V. White, and S. C. Mravik. [Case Studies on the Impact of Concentrated Animal Feeding Operations \(CAFOs\) on Ground Water Quality](#). U.S. Environmental Protection Agency, EPA/600/R-12/052, Office of Research and Development, Washington, D.C., 2012.

Hutchins, S. R. and R. T. Wilkin. [Performance Monitoring: Evaluating a Wheat Straw PRB for Nitrate Removal at an Agricultural Operation](#). IN: Technology News & Trends, U.S. EPA Office of Superfund Remediation and Technology Innovation, Washington, DC, (60):2-5, 2012.

Bradford, S. A., E. Segal, W. Zheng, Q. Wang, and **S. R. Hutchins**. [Reuse of Concentrated Animal Feeding Operating Wastewater on Agricultural Lands](#). Journal of Environmental Quality. American Society of Agronomy, 37(5):S97-S115, 2008.

Hutchins, S. R., M. V. White, F. M. Hudson, and D. D. Fine. [Analysis of Lagoon Samples From Different Concentrated Animal Feeding Operations For Estrogens And Estrogen Conjugates](#). Environmental Science & Technology. American Chemical Society, Washington, DC, 41(3):738-744, 2007.

Fine, D., G. P. Breidenbach, T. L. Price, and **S. R. Hutchins**. [Quantitation of Estrogens in Ground Water and Swine Lagoon Sample Using Solid Phase Extraction, Pentafluorobenzyl/Trimethylsilyl Derivatizations and Gas Chromatography Negative Ion Chemical Ionization/Mass Spectrometry/Mass Spectrometry](#). Elsevier (Ed.), Journal of Chromatography A 1017:167-185, 2003.

Hutchins, S. R. and S. Acree. [Groundwater Sampling Bias Observed in Shallow, Conventional Wells](#). Groundwater Monitoring and Remediation. Wiley InterScience, Silver Spring, MD, 20(1):86-93, 2000.

View more research publications by [Stephen Hutchins](#).

Education:

- Ph.D. William Marsh Rice University, Houston, TX; Environmental Science, 1984
- B.S. New Mexico Institute of Mining and Technology, Socorro, NM; Biology, 1977

Professional Experience:Awards and Honors

- EPA 1998 Scientific & Technological Achievement Award (STAA), Level III
- EPA 1993 Scientific & Technological Achievements Rewards (STAR)
- EPA 1991 Scientific & Technological Achievement Award (STAA), Level III
- Sigma Xi Graduate Merit Award in Physical Sciences and Engineering, 1985, Rice University - Texas Medical Center Chapter
- Eleanor and Mills Bennett Fellowship in Environmental Science and Engineering for academic years 1979-1980, 1980-1981, and 1981-1982

Patents

- **Hutchins, S.R.**, M.S. Davidson, and J.A. Brierley. 1988. Thermophilic microbial treatment of precious metal ores. U.S. Patent No. 4,729,788. (assigned to Advanced Mineral Technologies, Inc.)