

Kosič Ficco K., Thaler E., Brahana JV., Ficco M., Helms T., 2018, Strengths and limitations of karst groundwater vulnerability mapping methodologies: in Younos, T., Schreiber, M. and Ficco, K. K. Eds., *Karst Water Environment: Advances in Research, Management and Policy: Karst Water Environment, The Handbook of Environmental Chemistry*, v. 68, p. 91-132. Springer International Publishing, (DOI: https://doi.org/10.1007/978-3-319-77368-1_4).

Brief Summary: Peer-reviewed chapter of a management and policy book published by Springer International Publishing. Discusses strengths and drawbacks of models and methodologies of assessing karst vulnerability, with examples from the area of the Buffalo National River).

Brahana, Van, Bitting, Carol, Kosić-Ficco, Katarina, Turk, Teresa, Murdoch, John, Thompson, Brian, and Quick, Ray, 2017, Using fluorescent dyes to identify meaningful water-quality sampling locations and enhance understanding of groundwater flow near a hog CAFO on mantled karst—Buffalo National River, southern Ozarks: *in* Kuniandy, E.L., and Spangler, L.E., eds., *U.S. Geological Survey Karst Interest Group Proceedings, San Antonio, Texas, May 19-23, 2017, U.S. Geological Survey Scientific Investigations Report 2017-5023*, p. 147-160.

Brief Summary: Peer-reviewed chapter of the Karst Interest Group national meeting of the U.S. Geological Survey held in 2017. The report summarizes intensive dye-trace studies that show dispersive flow near C&H Industrial Hog Farm and its waste-spreading fields. Among other results, positive dye trances from input to output springs flowed beneath surface-water drainage boundaries, including one spring [Mitch Hill Spring] that lies on the opposite side of the Buffalo that flows directly into the Buffalo]. Other positive dye traces were documented [and verified by professional dye tracers unaware of recovery locations] in contiguous surface-water basins to Big Creek, as well as within Big Creek basin, verifying the complexity of the karst groundwater flowpaths.

Brahana, V., Nix, J., Kuyper C., Turk, T., Usrey, F., Hodges, S., Bitting, C., Ficco, K., Pollock, E., Quick, R., Thompson, B., and Murdoch, J., 2016, Geochemical processes and controls affecting water quality of the karst area of Big Creek near Mt. Judea, Arkansas: *Journal of the Arkansas Academy of Science*, v. 70, p. 45-58.

Brief Summary: Peer-reviewed report published by the Arkansas Academy of Science. This summarizes findings of trace constituents with relation to distance from C&H Industrial Hog Farm and its waste-spreading fields. Findings focused on the Boone Formation, and reflected that the closer to the source of hog feces and urine, the greater the concentration of indicator trace constituents in the springs.

Murdoch, John, Bitting, Carol, Brahana, John Van, 2016, Characterization of the karst hydrogeology of the Boone Formation in Big Creek Valley near Mt. Judea, Arkansas—Documenting the close relation of groundwater and surface water: *Environmental Earth Sciences*, v. 75;1160, 16 p. (DOI 10.1007/s12665-016-5981-y).

Brief Summary: Peer-reviewed journal article [*Environmental Earth Sciences*] that focused on the hydrogeology of the Boone Formation near the southernmost waste-spreading fields used by C&H Industrial Hog Farm. Continuous monitoring of precipitation and water levels in response to large rainfall events were reflected in distinct groundwater-recession curves, responding initially within one hour of rainfall. The recession of the groundwater levels indicated hydraulic characteristics of karstified limestone layers bound by insoluble chert layers [occurring as couplets] were consistent with surface-water stage in Big Creek, indicating that only evaluating surface water in the region missed significant groundwater transport within the hydrologic cycle of Big Creek.

Kosic, Katarina, Bitting, Carol L., Brahana, John Van, and Bitting, Charles J., 2015, Proposals for integrating karst aquifer evaluation methodologies into national environmental legislations—Case study of a concentrated animal feeding operation in Big Creek Basin and Buffalo National River, Arkansas, USA: Sustainable Water Resources Management, v. 1, p.363-374. (DOI 10.1007/s40899-015-0032-5).

Brief Summary: Peer-reviewed journal article [Sustainable Water Resources Management] that addresses karst aquifer evaluation with national environmental legislation, utilizing the approach in Slovenia with a case study from Big Creek. Discusses strengths and drawbacks of models and methodologies of assessing karst evaluation.

Brahana, Van, Nix, Joe, Bitting, Carol, Bitting, Chuck, Quick, Ray, Murdoch, John, Roland, Victor, West, Amie, Robertson, Sarah, Scarsdale, Grant, and North, Vanya, 2014, CAFOs on karst— Meaningful data collection to adequately define environmental risk, with specific application from the southern Ozarks of northern Arkansas: *in* Kuniandy, E.L., and Spangler, L.E., eds., U.S. Geological Survey Karst Interest Group Proceedings, Carlsbad, New Mexico, April 29-May 2, 2014, U.S. Geological Survey Scientific Investigations Report 2014-5035, p. 87-96.

Brief Summary: Peer-reviewed chapter of the Karst Interest Group national meeting of the U.S. Geological Survey held in 2014. The report summarizes basic concepts of karst hydrogeology with respect to known environmental problems of concentrated animal feeding operations, and provides an overview of the need to consider all stakeholders prior to allowing legal and political permitting, such as was done for C&H Industrial Hog Farm. The report focuses on the complete hydrologic cycle, and calls for a thorough study with implications for environmental justice.