

Ann Pitchford, Research Physical Scientist, in EPA's National Exposure Research Laboratory

Systems Exposure Division

[Mailing Address](#)

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Area of Expertise: With a background in landscape ecology, hydrology, and ecosystems services, my research interests involve developing spatial analysis tools and metrics that characterize pesticide-related risks for vulnerable landscapes and biota. This in turn is linked to human health, well-being, and the environment.

I am especially interested in the impacts of pesticides and contaminants of emerging concern (CECs) to streams and small water bodies. My specific interests are: describing how valleys and their streams, rivers, and wetlands absorb, filter, and biodegrade chemicals such as pesticides and CECs, for multiple scales of interest; characterizing the amounts of pesticides typically applied according to factors such as land use, crop type or urban setting, climate, and season of year; and identifying areas of landscape potentially containing biota vulnerable to chemicals from both the biological and physical perspectives, to inform risk assessment.

Select Publications:

Christensen, J., M. Nash, D. Chaloud, A. Pitchford, 2015, Spatial distributions of small water body types in modified landscapes: lessons from Indiana, USA, *Ecohydrol.*, doi: 10.1002/eco.1618.

Sanders, E., Y. Yuan, A. Pitchford, 2013, Fecal Coliform and *E. coli* Concentrations in Effluent-Dominated Streams of the Upper Santa Cruz Watershed, *Water*, 5, 243-261, doi:10.3390/w5010243

Allen, P., M. Nash, R. Ohman, R. Lopez, J. Christensen, A. Pitchford, N. Tallent-Halsell, L. Butler, 2011, Characterizing and Mapping of Ecosystem Services (CMESs) Literature Database Version 1.0, EPA/600/C-11/003.

Pitchford, A., A. Neale, D. Ebert, R. VanRemortel, J. Stark. 2008. *Midwestern Streams Modeled Using Landscape Metrics: Volume 2, Preliminary Statistical Results and Models*, EPA/600/X-08/016, 198 p.

Mehaffey, M., M. Nash, A. Neale, and A. Pitchford. 2007. Biological Integrity in Mid-Atlantic Coastal Plain Headwater Streams, *Env. Mon. and Assessment*, 124:141-156.

Landscape Ecology Branch, 2006, *Midwestern Streams Modeled Using Landscape Metrics: Volume 1, Study Design and Methods*, EPA/600/X-06/021, 63 p.

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Education:

- Ph.D. in Civil Engineering, 2002, University of Nevada, Las Vegas
- M.S. in Physics, 1978, University of Nevada, Las Vegas
- B.S. in Physics, 1975, University of Nevada, Reno

Professional Experience:

- Research Physical Scientist, USEPA, ORD, NERL-ESD, Las Vegas, NV, 1994-Present
- Acting Branch Chief USEPA, ORD, NERL-ESD, Las Vegas, NV (Detail 12/10- 3/11 and 6/11- 12/12)
- Program Manager/Supervisor, USEPA, ORD, NERL-ESD, 1988-1994
- Geophysicist, USEPA, ORD, NERL, 1984-1988
- Physicist, USEPA ORD NERL, 1979-1984
- Environmental Scientist, USEPA, Region 9, Las Vegas, NV, 1978-1979
- Environmental Scientist, USEPA, ORD, OADEMQA, EMSL-LV, 1975-1978

Honors and Awards:

- USEPA, Bronze Medal Honor Award, 2015
- USEPA, ORD/NERL Teamwork Award, 2011
- USEPA, Bronze Medal Honor Award, 2006
- USEPA, Scientific and Technological Achievement Award, Level III, 2006