

Adam Biales, Supervisory Biologist, in EPA's National Exposure Research Laboratory

Exposure Methods and Measurements Division

[Mailing Address](#)

biales.adam@epa.gov

Area of Expertise: My research focuses on establishing molecular biomarkers of exposure to chemical stressors for aquatic organisms. This has largely been accomplished through the identification of transcriptional and proteomic changes in response to stressors, using molecular techniques, such as real-time quantitative polymerase chain reaction (QPCR), microarrays, RNAseq and 2-D polyacrylamide gel electrophoresis (2-D PAGE). These biomarkers may be integrated into existing monitoring and stressor identification frameworks to add specificity and biological context for exposure.

Select Publications:

Wang, R. L.; Biales, A. D.; Garcia-Reyero, N.; Perkins, E. J.; Villeneuve, D. L.; Ankley, G. T.; Bencic, D. C., Fish connectivity mapping: linking chemical stressors by their mechanisms of action-driven transcriptomic profiles. *BMC genomics* 2016, *17* (1), 84.

Armstrong, B. M.; Lazorchak, J. M.; Jensen, K. M.; Haring, H. J.; Smith, M. E.; Flick, R. W.; Bencic, D. C.; Biales, A. D., Reproductive effects in fathead minnows (*Pimephales promelas*) following a 21 d exposure to 17alpha-ethinylestradiol. *Chemosphere* 2016, *144*, 366-73.

Doyle, E.; Biales, A.; Focazio, M.; Griffin, D.; Loftin, K.; Wilson, V., Effect-Based Screening Methods for Water Quality Characterization Will Augment Conventional Analyte-by-Analyte Chemical Methods in Research As Well As Regulatory Monitoring. *Environmental science & technology* 2015, *49* (24), 13906-7.

Biales, A. D.; Fritsch, E. B.; Connon, R. E., In response: integration of 'omics to larger-scale watershed assessments: a mixed government/academic perspective. *Environmental toxicology and chemistry / SETAC* 2015, *34* (4), 700-2.

Biales, A. D.; Denton, D. L.; Riordan, D.; Breuer, R.; Batt, A. L.; Crane, D. B.; Schoenfuss, H. L., Complex watersheds, collaborative teams: Assessing pollutant presence and effects in the San Francisco Delta. *Integrated environmental assessment and management* 2015, *11* (4), 674-88.

Wang, R. L.; Bencic, D. C.; Garcia-Reyero, N.; Perkins, E. J.; Villeneuve, D. L.; Ankley, G. T.; Biales, A. D., Natural Variation in Fish Transcriptomes: Comparative Analysis of the Fathead Minnow (*Pimephales promelas*) and Zebrafish (*Danio rerio*). *PloS one* 2014, *9* (12), e114178.

View more research publications by [Adam Biales](#).

Education:

- Ph.D. in Molecular Biology, 2004, University of Cincinnati
- B.S. in Wildlife Biology, 1995, Ohio University

Professional Experience:

- Branch Chief, USEPA, ORD/NERL, Present
- Research Biologist, USEPA, ORD/NERL, 2007 to 2011
- Federal Post-Doctoral Fellow, USEPA, ORD/NERL, 2004 to 2007