

CURRICULUM VITAE

W. REED GREEN

Current Position: Hydrologist (Limnology), U.S. Geological Survey, Arkansas Water Science Center

Current Address: U.S. Geological Survey, 401 Hardin Road, Little Rock, Arkansas 72211

Telephone: (501) 228-3607

Email: wrgreen@usgs.gov

Education: Ph.D., Biology, University of Arkansas, 1998. Emphasis: Limnology -- reservoir (lake) water quality and eutrophication. Dissertation: Relations between flushing rate and water quality in Beaver, Table Rock, Bull Shoals, and Norfolk Lakes, northern Arkansas - southern Missouri, 1974-95.

M.S., Botany, University of Arkansas, 1985. Emphasis: Phytoplankton ecology. Thesis: Indigenous phytoplankton response to nitrogen and phosphorus enrichments within *in situ* enclosures.

B.S., Botany, University of Arkansas, 1982.

Professional Experience:

August 1989 - present, Hydrologist, U.S. Geological Survey, Little Rock, Arkansas

- Hydrologist (Limnology) – January, 2011 – present.
- Assistant Director, USGS Arkansas Water Science Center, November, 2003 – December, 2010.
- Chief, Hydrologic Reservoir Science and Northwest Arkansas Programs, May, 2009 – December 2010.
- Chief, Hydrologic Surveillance and Analysis Section, November, 2003 – May, 2009.
- Arkansas Water Science Center, Water-Quality Discipline Specialist, 1996 – 2005.
- Principal Investigator and/or team leader/mentor for the following studies:
 - Guidelines to Lake and Reservoir Water-Quality Monitoring - National Field Manual for the Collection of Water-Quality Data (lead author, in prep)
 - Dissolved Solids, Chloride, and Sulfate Fate and Transport in Beaver Lake Arkansas (lead author, in prep)
 - Assessment of Fish Habitat Impairment in U.S. Reservoirs – Classification of Reservoirs Based on Physical, Chemical, Morphological, Physiographic, Hydrologic, and Landscape Characteristics
 - White River Reservoir responses to climate change
 - Transport mechanisms for taste and odor compounds in Beaver Lake
 - Real-time decision support system for sustainable and adaptive management of Lake Maumelle
 - Real-time decision support system for sustainable and adaptive management of Beaver Lake
 - Water-quality monitoring and assessment of Beaver Lake
 - Water-quality monitoring and assessment of Lakes Maumelle and Winona
 - Water-quality monitoring and assessment of Greers Ferry Lake
 - Assessment of ambient conditions and simulation of hydrodynamics and water quality in Beaver, Table Rock, Bull Shoals, and Norfolk Lakes in northern Arkansas and southern Missouri – Beaver Lake modeling

- Water-quality monitoring and assessment of the White, Illinois, and Kings Rivers in northwest Arkansas - White and Illinois
- Water-quality monitoring and assessment of the Middle Fork Saline River in west-central Arkansas
- Water-quality monitoring and assessment of Bear and Calf Creeks and Buffalo River
- Numerical model development of hydrodynamics and water quality in Lake Maumelle
- Source characterization of disinfection byproduct precursors in two drinking water supplies (Lakes Maumelle and Winona)

2012, Fall Semester, Instructor, General Botany, University of Arkansas at Little Rock

2012, Spring Semester, Instructor, Phytoplankton Identification and use as Bioindicators, University of Arkansas at Little Rock

2010, Academic Spring Semester, Instructor, Phytoplankton Ecology, University of Arkansas at Little Rock

January – April 2007, Gledden Academic Fellowship, University of Western Australia, Centre for Water Research, Perth, Australia

- By invitation, spent three months studying and sharing experiences at the Centre for Water Research
- Constructed a 3-D hydrodynamic and water-quality model of Beaver Lake, a USACE reservoir in northwest Arkansas, water supply for northwest Arkansas
- Assisted in the installation of two Lake Diagnostic Systems (real-time water-column water-quality monitors) on Thomson Reservoir, a drinking-water supply reservoir for the City of Melbourne, Australia

September 2006 – present, Adjunct faculty appointment, University of Arkansas, Little Rock, Departments of Biology and Earth Science.

- Working with other faculty in developing the UALR Center of Excellence for Watershed Science
- And with faculty and grad students on water-quality investigations including:
 - Lake Maumelle phytoplankton dynamics

January 2010 – present, Adjunct faculty appointment, University of Arkansas, Fayetteville, Department of Geosciences.

- Working with other faculty and grad students on water-quality investigations including:
 - Lower White River hydrologic investigations
 - Fate and transport of pharmaceuticals and other organic chemicals in northwest Arkansas streams
 - Fate and transport of non-point source contaminants in White and Illinois River Basins in northwest Arkansas
 - Beaver Lake hydrodynamics and water-quality investigations

July 2006 – December 2009, Adjunct Faculty appointment, University of Arkansas, Fayetteville, Department of Biological and Agricultural Engineering (serve on one Ph.D. committee and other M.S. committees).

September/October 2006, field experiments on Lake Como, Italy

- By invitation from Centre for Water Research, University of Western Australia, assisted on field experiments to examine a specific lake management practice to manage phytoplankton blooms

May 1986 - August 1989, Aquatic Biologist, U.S. Army Engineers, Environmental Laboratory, Waterways Experiment Station, Vicksburg, Mississippi

- Principal Investigator in the Chemical Control Technology Team, Aquatic Plant Control Research Program

September 1982 - May 1986

- Graduate Assistant for the University of Arkansas, Department of Botany

Publications (principal investigator, mentor, and/or senior or co-author - abstracts and proceedings omitted)

Green, W.R, and Wilde, F, (in review), Guidelines for design and sampling of water, bottom material, and biological quality in lakes and reservoirs: U.S. Geological Survey Techniques of Water Resource Investigations Book 9, Chapter X.

Green W.R.,(in review), Ambient conditions of dissolved solids, chloride, and sulfate, and water and transport simulations in Beaver Lake, Arkansas, 2006-2010: U.S. Geological Survey Scientific Investigations Report 2012-xxxx.

Hart R.M, Green, W.R., Westerman, D.A., Petersen, J.C., and De Lanois, J.L., (in review), Simulated effects of relations among hydrologic, water quality, and land use changes of the Lake Maumelle watershed, Arkansas: U.S. Geological Survey Scientific Investigations Report 2012-xxxx.

Alexander, J.S., Wilson, R.C., and Green, W.R., 2012, A brief history and summary of the effects of river engineering and dams on the Mississippi River system and delta: U.S. Geological Survey Circular 1375, 43 p.

De Lanois, J.L., and Green, W.R., (2011, in review) Hypolimnetic dissolved-oxygen dynamics within selected White River Reservoirs, northern Arkansas – southern Missouri, 1974-2008. U.S. Geological Survey Scientific Investigations Report, 2011-XXXX.

Naftz, D., Millero, F.J., Jones, B.F., and Green, W.R. (2010, in review) An equation of state for hypersaline water in Great Salt Lake, Utah, USA. Aquatic Geochemistry.

Bolyard, S.E., De Lanois, J.L., and Green, W.R., (2010) Constituent concentrations, loads, and yields to Beaver Lake, Arkansas, Water Years 1999-2008. [U.S. Geological Survey Scientific Investigations Report, 2010-5181.](#)

Green, W. R., (2008) Phosphorus under (one) cover. Ecology v. 89 pp, 2361-2362. Review of: Ratliffe, D.E., Cabrera, M.L., eds. (2007) Modeling phosphorus in the environment. CRC Press, Boca Raton, Florida. 432p. Ecology 89 p. 2361-2362.

Skrobialowski, Stanley C.; Green, W. Reed; Galloway, Joel M., (2007) Water quality of Lake Pontchartrain and outlets to the Gulf of Mexico following Hurricanes Katrina and Rita . U. S. Geological Survey Circular, Report: C 1306, pp.222-225, 2007. eds. Farris, Gaye S.; Smith, Gregory J.; Crane, Michael P.; Demas, Charles R.; Robbins, Lisa L.; Lavoie, Dawn L.

Galloway, J.M. and Green, W.R. (2006) Application of a two-dimensional reservoir water-quality model of Beaver Lake, Arkansas, for the evaluation of simulated changes in input water quality, 2001-2003. [U.S. Geological Survey Scientific Investigations Report 2006-3502.](#)

Galloway, J.M. and Green, W.R. (2006) Analysis of ambient water-quality conditions and simulation of hydrodynamics and water-quality characteristics in Beaver Lake, Arkansas, 2001-2003. [U.S. Geological Survey Scientific Investigations Report 2006-5003.](#)

- Haggard, B.E., Galloway, J.M., W.R. Green, and Meyer, M.T. (2006) Pharmaceuticals and other organic chemicals in selected north-central and northwest Arkansas streams. *Journal of Environmental Quality* v. 35 pp, 1078-1087.
- Galloway, J.M., Evans, D.A., and Green, W.R. (2005) Comparability of suspended sediment concentration and total suspended-solids data for two sites on the L'Anguille River, Arkansas, 2001-2003. [U.S. Geological Scientific Investigations Report 2005-5193.](#)
- Galloway, J.M., Haggard, B.E., Meyers, M.T., and Green, W.R. (2005) Occurrence of pharmaceuticals and other organic wastewater constituents in selected streams in northern Arkansas, 2004. [U.S. Geological Survey Scientific Investigations Report 2005-5140.](#)
- Galloway, J.M. and Green, W.R. (2004) Water-quality assessment of Lakes Maumelle and Winona, Arkansas 1991-2003. [U.S. Geological Survey Scientific Investigations Report 2004-5182.](#)
- Galloway, J.M., and Green, W.R. (2004) Hydrologic and water-quality characteristics for Calf Creek near Silver Hill, Arkansas and selected Buffalo River sites, 2001-2002. [U.S. Geological Survey Scientific Investigations Report 2004-5007.](#)
- Galloway, J.M., and Green, W.R. (2004) Hydrologic and water-quality characteristics for Bear Creek near Silver Hill, Arkansas and selected Buffalo River sites, 1994-2004. [U.S. Geological Survey Scientific Investigations Report 2004-5244.](#)
- Green, W.R., Galloway, J.M., Richards, J.M., and Weslowski, E.A. (2003) Table Rock Lake, Missouri: Analysis of ambient temperature and dissolved-oxygen conditions near the dam, and simulation of hydrodynamics and thermal and dissolved-oxygen dynamics, 1994-1995. [U.S. Geological Survey Water-Resources Investigations Report 03-4237.](#)
- Haggard, B.E., Soerens, T.S., Green, W.R., and Richards, R.P. (2003) Using Regression Methods to Estimate Stream Phosphorus Loads at the Illinois River, Arkansas. *Applied Engineering in Agriculture* v. 19, pp 187-194.
- Pickup, B.E., Andrews, W.J., Haggard, B.E., and Green, W.R. (2003) Phosphorus concentrations, loads, and yields, in the Illinois River Basin, Arkansas and Oklahoma, 1997-2001. [U.S. Geological Survey Water-Resources Report 03-4168.](#)
- Galloway, J.M. and Green, W.R. (2003) Simulation of hydrodynamics, temperature, and dissolved oxygen in Bull Shoals Lake, Arkansas, 1994-1995. [U.S. Geological Survey Water-Resources Investigations Report 03-4077.](#)
- Haggard, B.E., Soerens, T.S., Green, W.R., and Richards, R.P. (2003) Using regression methods to estimating stream phosphorus loads at the Illinois River, Arkansas. *Applied Engineering in Agriculture* 19(2):187-194.
- Galloway, J.M. and Green, W.R. (2002) Simulation of hydrodynamics, temperature, and dissolved oxygen in Norfolk Lake, Arkansas, 1994-1995: [U.S. Geological Survey Water-Resources Investigations Report 02-4250.](#)
- Haggard, B.E., and Green, W.R. (2002) Beaver Lake, Arkansas: Analysis of ambient temperature and dissolved-oxygen conditions near the dam, and simulation of hydrodynamics and thermal and dissolved-oxygen dynamics, 1994-1995. [U.S. Geological Survey Water-Resources Investigations Report 02-4116.](#)
- Petersen, J.C., Haggard, B.E., and Green, W.R. (2002) Hydrologic characteristics of Bear Creek near Silver Hill and Buffalo River near St. Joe, Arkansas 1999-2000. [U.S. Geological Survey Water-Resources Investigations Report 02-4024.](#)

- Green, W.R., and Haggard, B.E. (2001) Phosphorus and nitrogen concentrations and loads at Illinois River south of Siloam Springs, Arkansas, 1997-1999. [U.S. Geological Survey Water-Resources Investigations Report 01-4217](#).
- Green, W.R. (2001) Assessment of ambient conditions and simulation of hydrodynamics, constituent transport, and water-quality characteristics in Lake Maumelle, Arkansas, 1991-92. [U.S. Geological Survey Water-Resources Investigations Report 01-4045](#).
- Pomes, M.L., Larive, C.K., Thurman, M.E., Green, W.R., Orem, W.H., Rostad, C.E., Coplen, T.B., Cutak, B.J., and Dixon, A.M. (2000) Sources of haloacetic acid/trihalomethane formation potentials of aquatic humic substances in the Wakarusa River and Clinton Lake near Lawrence, Kansas. *Environmental Science and Technology* v. 34, pp 4278-4286.
- Green, W.R., Barks, C.S., and Hall, A.P. (1999) Suspended sediment in the St. Francis River at St. Francis, Arkansas, 1986-95. U.S. Geological Survey Open-File Report 99-227.
- Pomes, M.L., Green, W.R., Thurman, E.M., Orem, W.H., and Lerch, H.E. (1999) DBP formation potential of aquatic humic substances. *Journal of American Water Works Association* v. 91, pp 103-116.
- Green, W.R. (1998) Water-quality assessment of the Frank Lyon, Jr., nursery pond release into Lake Maumelle. U.S. Geological Survey Water-Resources Investigations Report 98-4194.
- Green, W.R. (1998) Relations between flushing rate and water quality in Beaver, Table Rock, Bull Shoals, and Norfork Lakes, northern Arkansas - southern Missouri, 1974-1995. Ph.D. Dissertation. University of Arkansas, Fayetteville.
- Pomes, M.L., Green, W.R., Thurman, M.T., Orem, W.H., and Lerch, H.T. (1997) Source characterization of disinfection byproduct precursors in two Arkansas water-supply reservoirs. U.S. Geological Survey Fact Sheet 118-97.
- Green, W.R. (1996) Eutrophication trends inferred from hypolimnetic dissolved-oxygen dynamics within selected White River reservoirs, northern Arkansas - southern Missouri, 1974-94. U.S. Geological Survey Water-Resources Investigations Report 96-4096.
- Joseph, R.L., and Green, W.R. (1994) Water-quality conditions and streamflow gain and loss of the south prong of Spavinaw Creek Basin, Benton county, Arkansas. U.S. Geological Survey Open-File Report 94-706.
- Joseph, R.L., and Green, W.R. (1994) Water-quality reconnaissance and streamflow gain and loss of Yocum Creek Basin, Carroll county, Arkansas. U.S. Geological Survey Open-File Report 94-537.
- Green, W.R. (1994) Water quality assessment of Maumelle and Winona reservoir systems, central Arkansas, May 1989 - October 1992. U.S. Geological Survey Water-Resources Investigations Report 93-122.
- Green, W.R., and Louthian, B.L. (1993) Hydrologic data collected in Maumelle and Winona reservoir systems, central Arkansas, May 1989 through October 1992. U.S. Geological Survey Open-File Report 93-122.
- Woodburn, K.B., Green, W.R., and Westerdahl, H.E. (1993) Aquatic dissipation of triclopyr in Lake Seminole, Georgia. *Journal of Agriculture and Food Chemistry* 41: 2172-2177.
- Netherland, M.D., Green, W.R., and Getsinger, K.D. (1991) Endothall concentration and exposure time relationships for the control of Eurasian watermilfoil and hydrilla. *Journal of Aquatic Plant Management* 29: 61-67.

- Fox, A.M., Haller, W.T., Getsinger, K.D., and Green, W.R. (1991) Characterization of water exchange in hydrilla-infested tidal canals of the Crystal River, Florida. U.S. Army Engineers Waterways Experiment Station Miscellaneous Paper A-91-2.
- Getsinger, K.D., Green, W.R., and Westerdahl, H.E. (1990) Characterization of water movement in submersed plant stands. U.S. Army Engineer Waterways Experiment Station Miscellaneous Paper A-90-5.
- Green, W.R., and Westerdahl, H.E. (1990) Eurasian watermilfoil control using 2,4-D. *Journal of Aquatic Plant Management* 20: 27-32.
- Green, W.R., and Westerdahl, H.E. (1989) Triclopyr (Garlon 3A) dissipation in Lake Seminole Georgia. U.S. Army Engineers Waterways Experiment Station Miscellaneous Paper A-89-2.
- Green, W.R., and Westerdahl, H.E. (1988) 2,4-D concentration/exposure time relationships for the control of Eurasian watermilfoil. U.S. Army Engineers Waterways Experiment Station Miscellaneous Paper A-88-8.
- Green W. R. and Westerdahl, H.E. (1988) Persistence of diclobenil in Lake Seminole, Georgia. U.S. Army Engineers Waterways Experiment Station Miscellaneous Paper A-88-6.
- Meyer, R.L., Green, W.R., Steele, K.F., and Wickliff, D. (1986) Algal growth potentials and heavy metal concentrations of the primary streams to upper Beaver Lake. Publication No. 122, Technical Completion Report, Arkansas Water Resources Research Center, Fayetteville Arkansas.
- Green, W. R. (1985) Indigenous phytoplankton response to nitrogen and phosphorus enrichments within *in situ* enclosures. Master Thesis, University of Arkansas, Fayetteville.
- Meyer, R.L., and Green, W.R. (1985) The application of the Algal Assay Bottle Test to define potential algal production through time and space in Beaver Lake. *In Water Quality Management Strategies for Beaver Lake*. MSC-31. Arkansas Water Resources Research Center, Fayetteville, Arkansas.
- Meyer, R.L. and Green, W.R. (1984) Evaluation of nitrogen and phosphorus enrichment using *in situ* enclosure bags with temporal indigenous phytoplankton populations. Technical Completion Report G-829-04, Arkansas Water Resources Center, Fayetteville, Arkansas.

Membership and Activities in Professional Societies

Sigma Xi - Associate member

American Society of Limnology and Oceanography - Active member

North American Lake Management Society - Active member

American Water Resources Association - Active member

Arkansas Section of the American Water Resources Association

President – 1996, Vice President – 1994, Secretary-treasurer - 1992-93

Arkansas Academy of Science – member

Awards

United States Department of the Interior, Superior Service Award, September, 2007