

Marc R. Owen, M.S.

Ozarks Environmental and Water Resources Institute
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EDUCATION

Missouri State University

M.S., Resource Planning, 2003

Thesis: *Phosphorus Contamination and Storage in Bottom Sediments of the James River Arm of Table Rock Lake, Southwest Missouri*

Advisor: Robert T. Pavlowsky

Committee: Rex Cammack, Erwin Mantei

B.S., Geography (Environmental and Natural Resources emphasis), Minor: Biology, 2000

Research Project: *Historical Mining Pollution and Overbank Sedimentation, James River, SW Missouri*

Advisor: Robert T. Pavlowsky

WORK EXPERIENCE

2013-present: Assistant Director, Ozarks Environmental and Water Resources Institute, Missouri State University

2005-2013: Research Specialist II, Ozarks Environmental and Water Resources Institute, Missouri State University

2002-2005: Environmental Investigator, Environmental Section, Resource Management Department, Greene County, Missouri

2000-2002: Graduate Assistant, Department of Geography, Geology, and Planning, Missouri State University, Resource Planning Graduate Program

PEER-REVIEWED PAPERS

3. Pavlowsky, R.T., S.A. Lecce, **M.R. Owen**, and D.J. Martin (2017). *Legacy sediment, lead, and zinc storage in channel and floodplain deposits of the Big River, Old Lead Belt Mining District, Missouri, USA*. *Geomorphology*, Vol. 299, 54-75
2. **Owen, M.R.**, R.T. Pavlowsky, P.J. Womble (2011). *Historical Disturbance and Contemporary Floodplain Development along an Ozark River, Southwest Missouri*. *Physical Geography*, 32 (5), pp. 423-444.
1. **Owen, M.R.** and R.T. Pavlowsky, (2011). *Base Flow Hydrology and Water Quality of an Ozarks Spring and Associated Recharge Area, Southern Missouri, USA*. *Environmental Earth Science*, 64 (1), pp. 169-183.

TECHNICAL REPORTS

36. **Owen, M.R.**, T.M. Carroll, and R.T. Pavlowsky (2017). *Wastewater Indicators and Exfiltration Sources in Wilson Creek, Springfield, Missouri*. OEWR I EDR-17-001. Completed for The City of Springfield, Missouri, January 27, 2017.

35. Pavlowsky, R.T., and **M.R. Owen** (2016). *Stream sediment and floodplain soil contamination in the Viburnum Trend in Crawford, Dent, Iron, Reynolds, and Washington Counties in Southeast Missouri*. OEWRI-EDR-15-002. Completed for the U.S. Fish and Wildlife Service, 101 Park DeVille, Suite A, Columbia, MO 65203, November 14, 2016.
34. Pavlowsky, R.T., M.C. Pierson, **M.R. Owen**, and J.C. Voss (2016). *Year 1 Annual Report for: Big River Lead Remediation Structure (BRLRS) Monitoring Project*. Completed for U.S. Environmental Protection Agency, Region VII. October 14, 2016.
33. Pavlowsky, R.T. and **M.R. Owen** (2016). *Quality Assurance Project Plan (QAPP) for: Big River Lead Remediation Structure (BRLRS) Monitoring Project*. Completed for U.S. Environmental Protection Agency, Region VII. June 13, 2016.
32. **Owen, M.R.**, R.T. Pavlowsky, E. Buyrgan, and S. Zeiger (2016). *Water Quality Modeling and Load Reduction Simulation of Nutrients and Sediment, Wilsons Creek Watershed, Springfield, Missouri*. OEWRI-EDR-016-002, completed for the James River Basin Partnership. May 10, 2016.
31. Pavlowsky R.T., **M.R. Owen**, and R.A. Bradley (2016). *Historical Rainfall Analysis for the Big Barren Creek Watershed, Southeast Missouri (1955-2015)*. Prepared for U.S. Forest Service, Mark Twain National Forest, March 23, 2016.
30. **Owen, M.R.**, R.T. Pavlowsky, and Matt Thies (2016). *Update to Water Quality Monitoring and Load Reduction Evaluation from Detention Basin Retrofits in Springfield, Missouri*. Completed for the City of Springfield, February 16, 2016.
29. **Owen, M.R.** and R.T. Pavlowsky (2015). *Nonpoint Source Bank Erosion and Load Reduction Assessment for the Pearson Creek 319 Riparian Corridor Easement Site 5377 E. Foxgrove Lane, Greene County, Missouri*. Prepared for the James River Basin Partnership, July 30, 2015.
28. **Owen, M.R.**, R.T. Pavlowsky and K. Zelzer (2015). *Nonpoint Source Bank Erosion and Load Reduction along Wilson Creek below Farm Road 156, Greene County, Missouri*. Prepared for the James River Basin Partnership, June 25, 2015.
27. **Owen, M.R.**, R.T. Pavlowsky and A. Mulling (2015). *Water Quality Monitoring and Load Reduction Evaluation from Detention Basin Retrofits in Springfield, Missouri*. Completed for the Watershed Committee of the Ozarks supporting the Springfield Greene County Urban Watershed Stewardship 319 Grant. June 11, 2015.
26. **Owen, M.R.**, R.T. Pavlowsky and A. Mulling (2015). *South and Fassnight Creek Water Quality Assessment, January 2012-March 2015*. Completed for the Watershed Committee of the Ozarks supporting the Springfield Greene County Urban Watershed Stewardship 319 Grant. May 12, 2015.
25. **Owen, M.R.**, R.T. Pavlowsky and A. Mulling (2015). *Pre-Project Water Quality Monitoring for South Creek at Campbell Avenue and Kansas Expressway, Springfield, Missouri, April 1, 2014 to March 31, 2015*. Completed for the City of Springfield, Missouri. April 29, 2015.
24. Pavlowsky, R.T. and **M.R. Owen** (2014). *Geomorphic Assessment of South Creek between National and Campbell Avenue, Springfield, Missouri*. Completed for: Olsson Associates, August 6, 2014.
23. **Owen, M.R.** and R.T. Pavlowsky (2014). *Water Quality Assessment and Load Reductions for Pearson Creek, Springfield, Missouri*. Final Report, Completed for: James River Basin Partnership, Show-Me Yards Neighbors, Farms and Ranches 319 Project. January 31, 2014.
22. **Owen, M.R.** and R.T. Pavlowsky (2013). *Asher Creek Water Quality Assessment, Greene and Polk Counties, Missouri*. Final Report, Completed for: Greene County Soil and Water Conservation District, Asher Creek Watershed 319 Project, G12-NPS-02. December 1, 2013.
21. Pavlowsky, R.T. and **M.R. Owen** (2013). *Indian Creek Fluvial Geomorphology Study, Olathe, Kansas*. Final report to Olsson Associates for the City of Olathe, Kansas. November 11, 2013.

20. **Owen, M.R.**, R.T. Pavlowsky and E. Kuehn (2013). *Nonpoint Source Bank Erosion and Water Quality Impairment Assessment, James River at Rivercut Golf Course, Greene County, Missouri*. Prepared for the James River Basin Partnership. September 17, 2013.
19. **Owen, M.R.**, R.T. Pavlowsky and E. Kuehn (2013). *Nonpoint Source Bank Erosion and Water Quality Assessment, James River at River Bluff Farm, Stone County, Missouri*. Prepared for the James River Basin Partnership. June 12, 2013.
18. **Owen, M.R.**, R.T. Pavlowsky and E. Kuehn (2013). *Historical Water Quality Data Analysis, Pearson Creek, Springfield, Missouri*. Ozarks Environmental and Water Resources Institute EDR-13-001.
17. **Owen, M.R.**, R.T. Pavlowsky, and L.M. Olson (2012). *Channel Stability and Riparian Corridor Assessment to Identify Nonpoint Source Pollution, Wilson Creek, Springfield, Missouri*. Completed for the James River Basin Partnership. OEWR EDR-12-003.
16. **Owen, M.R.** and R.T. Pavlowsky (2012). *Final Report for: Nutrient Transport and Fate from Municipal Biosolids Land Application*. Completed for the City of Springfield, Missouri. OEWR EDR-12-001.
15. **Owen, M.R.**, R.T. Pavlowsky, and D.J. Martin (2011). *Big River Mining Sediment Assessment Project: Big River Borrow Pit Monitoring Project*. Funded by: U.S. Fish and Wildlife Service Cooperative Ecosystems Studies Unit. OEWR EDR-10-003.
14. **Owen, M.R.** and R.T. Pavlowsky (2011). *Final Technical Report for: Water Quality Monitoring and Load Reduction Evaluation from Residential Developments in Christian County, Missouri*. Completed for: James River Basin Partnership "Sources and Reductions of Storm Water Runoff in the James River Basin" EPA FY 2006 319. OEWR EDR-11-001.
13. **Owen, M.R.**, R.T. Pavlowsky, and A. DeWitt (2010). *2nd Annual Report for: Nutrient Transport and Fate from Municipal Biosolids Land Application*. Completed for the City of Springfield, Missouri. OEWR EDR-10-007.
12. Pavlowsky, R.T. and **M.R. Owen**, (2010). *Geomorphic Assessment of Upper Wards Branch, Springfield, Missouri*. OEWR EDR-10-006.
11. Mickus, K.L., R.T. Pavlowsky, **M.R. Owen**, and P.J. Womble (2010). *DC-Resistivity and Ground Penetrating Radar Investigation of the Floodplain and Gravel Bars of the Big River, Eastern Missouri*. OEWR EDR-10-004.
10. Pavlowsky, R.T., **M.R. Owen** and D.J. Martin (2010). *Distribution, Geochemistry, and Storage of Mining Sediment in Channel and Floodplain Deposits of the Big River System in St. François, Washington, and Jefferson Counties, Missouri*. Final Report to the USFWS Cooperative Ecosystems Studies Unit. OEWR EDR-10-002.
9. Pavlowsky, R.T. and **M.R. Owen** (2009). *Geomorphic Analysis of Lackman Tributary, Lenexa, KS*. Final report to Olsson Associates for the City of Lenexa, Kansas. OEWR EDR-09-004.
8. **Owen, M.R.**, J. Duzan, R.T. Pavlowsky, M. Burton, T. Dewitt, C. Wallace, D. Gisselbeck, S. Hefner, (2009). *1st Annual Report for: Nutrient Transport and Fate from Municipal Biosolids Land Application*. Completed for the City of Springfield, Missouri. OEWR EDR-09-003.
7. Pavlowsky, R.T. and **M.R. Owen** (2009). *Geomorphic Assessment of Galloway Branch in Sequiota Park, Springfield, Missouri* Final report to Olsson Associates for the City of Springfield, Missouri. OEWR EDR-09-002.
6. Pavlowsky, R.T. and **M.R. Owen** (2009). *Geomorphic Assessment of City Center Athletic Club. Development Impacts on Existing Stream Channel Stability, Lenexa, KS*. Final report to Olsson Associates for the City of Lenexa, Kansas. OEWR EDR-09-001.
5. **Owen, M. R.** and R.T. Pavlowsky (2008). *Final Report for the Water Quality Monitoring and Analysis of the Bennett Spring Watershed and Recharge Area*. OEWR EDR-08-005.

4. **Owen, M. R.** and R.T. Pavlowsky (2008). *Ward Branch Stream Restoration Project Post-Construction Assessment and Final Report*. OEWRI EDR-08-004.
3. **Owen, M. R.**, M.A. Gossard, and R.T. Pavlowsky (2007). *Pre-construction report for the Ward Branch stream restoration project*. OEWRI EDR-07-004.
2. **Owen, M.R.**, and R. Pavlowsky (2007). *Quality Assurance Project Plan for: Water Quality Monitoring and Analysis of the Bennett Spring Watershed and Recharge Area*. OEWRI QA07-001.
1. **Owen, M.R.**, G. Borchelt, and R.T. Pavlowsky (2006). *Environmental Data Report for Geospatial Database and Water Quality Baseline Development for the Upper White River Basin, Missouri and Arkansas*. Completed for the Upper White River Basin Foundation, funded by Upper White River Basin Initiative Project, USEPA Region 7. OEWRI EDR-06-001

GRANTS AND CONTRACTS

10. Pavlowsky, R.T. and **M.R. Owen**, 2017. City of Springfield MS4 Monitoring Grant - Year 10 continuation, \$51,929.
9. Pavlowsky, R.T. and **M.R. Owen**, 2017. Lamar Lake Pilot Watershed Assessment, USDA-NRCS \$34,279.
8. Pavlowsky, R.T. and **M.R. Owen**, 2016. Wilson Creek Exfiltration Assessment Pilot Project, City of Springfield, \$14,891.
7. Pavlowsky, R.T., **M.R. Owen**, and P. Schweiger, 2016. Little Sac Watershed SWAT model to support watershed planning (319), Watershed Committee of the Ozarks, \$58,257.
6. Pavlowsky, R.T. and **M.R. Owen**, 2016. MS4 monitoring and reporting services for Greene County, City of Nixa, and City of Battlefield, Missouri. \$21,000.
5. Pavlowsky, R.T. and **M.R. Owen**, 2015. Technical assistance and water quality modeling for the Middle James River Watershed Management Plan, James River Basin Partnership, \$28,000.
4. Pavlowsky, R.T. and **M.R. Owen**, 2015. Load reduction analysis for 319 riparian easement projects for Wilson and Pearson Creeks. James River Basin Partnership, \$10,000.
3. Pavlowsky, R.T. and **M.R. Owen**, 2015. Storm water basin monitoring (post-construction period continuation) City of Springfield, \$14,000.
2. Pavlowsky, R.T. and **M.R. Owen**, 2015. MS4 monitoring and reporting services for Greene County, City of Nixa, and City of Battlefield, Missouri. \$18,000.
1. Pavlowsky, R.T. and **M.R. Owen**, 2014. Geomorphic Assessment of the South Creek restoration site, Springfield, Missouri. Olsson Associates, \$3,000.

CONFERENCE PRESENTATIONS/POSTERS

15. **Owen, M.R.**, R.T. Pavlowsky, and A.D. Mulling. Sediment Phosphorus Reductions due to Improvements in Wastewater Treatment in Table Rock Lake, southwest Missouri. American Water Resources Association 2015 Annual Water Conference, Denver, CO, November 16-19, 2015.
14. **Owen, M.R.** and R.T. Pavlowsky. Historical Channel Change and Disturbance Zone Formation in the Big River, SE Missouri. Poster Presentation at the 2015 Upper Midwest Stream Restoration Symposium, Dubuque, IA, February 8-11, 2015.
13. **Owen, M.R.** and R.T. Pavlowsky. *Decade of Watershed Science and Applications in Southwest Missouri*. Water Challenges and Opportunities, A Symposium in Celebration of 50th Anniversary of Missouri Water Resources Research Center. University of Missouri, Columbia. Sponsored by Mizzou Advantage & the Chancellor's Distinguished Speakers Program, October 7-8, 2014.

12. **Owen, M.R.** and R.T. Pavlowsky. Geomorphic Based Stream Restoration in Missouri and Kansas. Poster Presentation at the 2013 Upper Midwest Stream Restoration Symposium. La Crosse, WI February 24-27, 2013.
11. **Owen, M.R.** and R.T. Pavlowsky. Local-scale variations in Floodplain Contamination by Historical Mining in the Old Lead Belt, SE Missouri. Poster Presentation at the 67th Annual Meeting of the Southeastern Division of the Association of American Geographers. Asheville, NC, November 18-20, 2012.
10. **Owen, M.R.** and R.T. Pavlowsky. Water Quality and Forage Production from Municipal Biosolids Land Application in Southwest Missouri. Presentation at the 2012 Ozark Summit, Springfield, Missouri, June 12-14, 2012.
9. **Owen, M.R.** and R.T. Pavlowsky. Channel Stabilization and Riparian Corridor Enhancement in an Urban Stream, Springfield, Missouri. Poster presentation at the 2012 Ozark Summit, Springfield, Missouri, June 12-14, 2012.
8. **Owen, M.R.** and R.T. Pavlowsky. *Assessment of Nutrient and Suspended Sediment Contributions from Subdivision Developments in Christian County, Missouri*, Poster Presentation at the 2011 Upper Midwest Stream Restoration Symposium, Oconomowoc WI. February 27 to March 2, 2011.
7. **Owen, M.R.** and R.T. Pavlowsky. *Water Quality and Runoff Characteristics from Agricultural Fields Applied with Biosolids and Mineral Fertilizers, Lawrence County, Missouri*. 2011 Missouri Natural Resources Conference, Osage Beach MO, February 2-4, 2011.
6. **Owen, M.R.**, Pavlowsky, R.T., and D.J. Martin. *Geomorphic Evaluation of Channel Dredging to Control Contaminated Sediment Transport in Big River, Old Lead Belt, Eastern Missouri*. 65th Annual Meeting of the Southeastern Division of the Association of American Geographers, Birmingham AL, November 21-23, 2010.
5. **Owen, M.R.**, R.T. Pavlowsky and P.J. Womble. *Historical Floodplain Deposition and Disturbance Zone Evolution in the Middle James River, SW Missouri*. Joint Meeting of the North-Central/South-Central Sections of the Geological Society of America, Branson MO, April 11-13, 2010.
4. **Owen, M. R.** and R.T. Pavlowsky. *Spatial Distribution of Historical Alluvium on Floodplains of the Middle James River, SW Missouri*. Poster Session in Geoarchaeology and Environmental History at the 39th Annual Binghamton Geomorphology Symposium, University of Texas at Austin, October 9-11, 2008.
3. **Owen, M. R.** and R.T. Pavlowsky. *Historical Sediment Deposition on Floodplains of the James River, Southwest Missouri*. Presentation at the Annual Meeting of the Association of American Geographers, Boston MA, April 15-19, 2008.
2. **Owen, M. R.**. *Ward Branch Urban Channel Stabilization Project*. Missouri Natural Resource Conference, Osage Beach MO, February 1st, 2008.
1. **Owen, M.R.**, R.T. Pavlowsky, M.A. Gossard, and T.W. Smith. *Channel restoration of urbanizing stream of the Ozarks Plateaus, Greene County, Missouri*. Association of American Geographers Annual Meeting, San Francisco CA, April 17-21, 2007.

COMMUNITY PRESENTATIONS

5. **Owen, M.R.**, *Update on OEWRI projects in the Big Barren Creek Watershed Mark Twain National Forest in SE, Missouri*. USFS Region 9 Silviculture Workshop, March 8, 2017.
4. **Owen, M.R.**, *Hydrology and Water Quality Monitoring in Southwest Missouri*. Watershed Committee of the Ozarks Summer Watershed Academy, July 16, 2013.
3. **Owen, M. R.**, *Update on Water Quality Projects in the Springfield Area*, Watershed Committee of the Ozarks Monthly Meeting, December 4, 2009.

2. **Owen, M. R.**, *GIS Techniques for Watershed Science Research*, Distinguishing Your Community by Its Natural Resources, Missouri Department of Conservation Springfield Nature Center, February 20, 2009.
1. **Owen, M. R.**, *Sources and Reductions of Storm Water Runoff in the James River Basin*, field trip presentation for Ripple Effect-Low Impact Development Conference, Springfield Missouri, May 7-8, 2008.

EDUCATION, SERVICE, AND SUPPORT

10. University Staff Ambassadors (USA) Advisory Council Member, 2016-2017.
9. BEAR (Building Emloyee Ambassador Relationships) Connection Mentor 2015-2017.
8. Organize and conduct annual field trip to local stream for 6th grade science class at Springfield Lutheran School, 2014-2016.
7. Served as a judge at the Ozarks Science and Engineering Fair, Hammons Student Center, Missouri State University, 2014-2016.
6. Co-Organizer of *Environmental Stewardship of Biosolids Land Application: Implications regarding soil health, nutrient cycling, storm water runoff, and agricultural production* workshop at the 2011 Missouri Natural Resources Conference, Osage Beach, Missouri, February 2-4, 2011.
5. Co-Chair of the *Human Impacts on Fluvial Systems* session at the Joint Meeting of the North-Central/South-Central Sections of the Geological Society of America, Branson, Missouri, April 11-13, 2010.
4. Guest lecture and teach labs for several CNAS courses including BIO 509 Stream Ecology, GEO 700 Introduction to Graduate Study in Geospatial Sciences, GEO 770 Advanced Field and Laboratory Methods, GRY 108 Principles of Sustainability and GRY 348 Geomorphology.
3. Annually attend the Missouri Natural Resources Conference held at Tan-Tar-A Resort, Osage Beach, Missouri, 2006-2017.
2. Provide technical assistance to Greene County, Missouri Resource Management Department on impact of mining waste on a tributary to Pearson Creek, stream stabilization projects, and topsoil removal permitting.
1. Supervised, trained, and mentored 59 graduate assistants and 14 undergraduate research assistants since 2005.

UNIVERSITY ORGANIZATIONS

2. University Staff Ambassador (Class of 2015)
1. University Alliance for Veterans