

Martin W. Doyle, Ph.D.
Professor of River Science and Policy
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RESEARCH AND TEACHING INTERESTS

River System Science: river geomorphology, hydrology, hydraulics, ecology, biogeochemistry
River Systems and Societies: river policy and economics, environmental markets, infrastructure policy
River History: political economy of river use, politics, and technology in US from colonial to present

EDUCATION

Ph.D. 2002, Purdue University, Earth Science.
M.S.Eng. 1997, National Sedimentation Laboratory-University of Mississippi, Environmental Engineering.
B.S. 1995, Harding University, Physics, Applied Mathematics.

PROFESSIONAL POSITIONS AND AFFILIATIONS

Duke University – Durham, NC
Professor of River Science and Policy, Nicholas School of Environment (2011-present)
University of North Carolina – Chapel Hill, NC
Associate Professor, Department of Geography (2006-present)
Assistant Professor, Department of Geography (2002 – 2006)
Curriculum in Ecology (2002-present)
U.S. Army Corps of Engineers – Institute for Water Resources, Ft Belvoir, VA
Frederick J Clarke Visiting Scholar (2009 – 2010)
Cary Institute of Ecosystem Studies, Millbrook, NY
Visiting Scientist (Fall 2004)
Purdue University, West Lafayette, IN
USDA Research Fellow, Environmental Sciences and Engineering Institute (1999-2001)
Graduate Research Assistant, Department of Earth and Atmospheric Sciences (2001-2002)
Inter-Fluve, Inc., Bozeman, MT and Hood River, OR
Hydraulic Engineer (EI) (1997-1999)
National Sedimentation Laboratory, Oxford, MS
Research Assistant Hydraulic Engineer (1995-1997)
Mt. Rainier National Park, Longmire, WA
Hydrologist (1994)

PROFESSIONAL DISTINCTIONS

Frederick J Clarke Fellow, US Army Corps of Engineers-Institute for Water Resources, 2009-2010
John Simon Guggenheim Fellow, 2009-2010
William R Boggess Award, American Water Resources Association, 2010 [in honor of the author of the best paper published in the *Journal of the American Water Resources Association*
Rieth Distinguished Lecture, Purdue University, 2010
Sigma Xi, 2009 – present [
Kavli Fellow for the Frontiers of Science, National Academy of Sciences, 2009
Julian Simon Fellow, Property and Environment Research Center, 2009-2010
W.N. Reynolds Research Leave, UNC College of Arts and Science, 2009-2010
Editorial Board, *Water Resources Research* (2009-present)
Editorial Board, *Ecology* (2008-present)
Editorial Board, *Annals of the Association of American Geographers* (2009-present)
Aldo Leopold Leadership Fellow, Stanford Univ – Woods Institute of Environment, 2008

GlaxoSmithKline Faculty Fellow for Public Policy, Institute for Emerging Issues, 2008
John Treacy Memorial Lecture, University of Wisconsin, 2006
Editor's Citation Award for Excellence in Reviewing, Amer. Geophysical Union (*Water Resources Res*), 2006
CAREER Award, National Science Foundation, 2005
Nystrom Award, Association of American Geographers, 2004
Chorafas Prize, Chorafas Foundation-Switzerland, 2002
Wolman Award, Association of American Geographers, 2002
Fahnestock Award, Geological Society of America, 2001
Horton Grant, American Geophysical Union, 2000
National Academy of Sciences – Sigma Xi, Dissertation Research Award, 2000
USDA GAANN Dissertation Fellowship, 1999-2001
Licensed Engineering Intern in Montana
Order of the Engineer

SCIENCE AND POLICY COMMITTEES AND PANELS

Missouri River Recovery Program – Independent Science Advisory Panel (Co-Chair)
Dec 2010 – present
NC Ecosystem Enhancement Program – Science Advisory Committee
March 2010 – Present
National Ecological Observatory Network
Hydroecology sub-committee
Heinz Center for Policy, Economics and the Environment
Dam Removal Science and Policy Panel
Coalition of Universities for the Advancement of Hydrologic Sciences (CUAHSI)
Floodplain Processes Working Group
National Center for Earth-Surface Dynamics
Morphodynamics following Dam Removal
American Society of Civil Engineers Task Committees
Unstable Channel Processes Task Committee (Secretary)
Dam Decommissioning Task Committee
River Restoration Task Committee

PUBLICATIONS (underline indicates student or post-doc as author or co-author)

Key Publications

Doyle and Bernhardt (2011). What is a stream? *Environmental Science and Technology* 45: 354-359.
Doyle and Ensign (2009). Alternative reference frames in river systems science. *BioScience* 59: 499-510.
Doyle et al. (2008). Aging infrastructure and ecosystem restoration. *Science* 319(5861): 286-287.
Doyle et al. (2005). Effective discharge analysis of ecological processes in streams. *Water Resources Research*, 41, W1141, doi: 10.1029/2005WR004222.
Doyle et al. (2003). Channel adjustments following two dam removals in Wisconsin. *Water Resources Research*. 39(1), 1011, doi: 10.1029/2002WR001714.

Peer-reviewed articles in journals, AGU monograph series (n=2), or ASCE monograph (n=1)

[RSS]: River system science (geomorphology, ecology, biogeochemistry, hydrology)

[EEP]: Environmental economics and policy (ecosystem service markets, infrastructure, floodplain management, legal jurisdictions)

[HIST]: History or archaeology (political economy of rivers; Cilician geo-archaeology)

Published (including in press):

74. Muehlbauer, J. E.S., Bernhardt, and M.W. Doyle (2011). Macroinvertebrate community responses to a dewatering disturbance gradient in a restored stream. *Hydrology and Earth System Sciences* 7, 9599-9630, 2010, doi:10.5194/hessd-7-9599-2010. [RSS]
73. Kern, J., G.W. Characklis, M.W. Doyle, S. Blumsack, and R.B. Whisnant (2011, in press). Influence of de-regulated electricity markets on hydropower generation and downstream flow regime. *Journal of Water Resources Planning and Management*.
72. Riggsbee, J.A., R.G. Wetzel and M.W. Doyle (2011, in press). Physical and plant community controls on nitrogen and phosphorus leaching from impounded riverine wetlands following dam removal. *River Research and Applications*. [RSS].
71. Muehlbauer, J., and M.W. Doyle (2011, in press). Measuring discharge with salt injections does not affect benthic fauna. *River Research and Applications*. [RSS]
70. Doyle, M.W., and E.S. Bernhardt (2011). What is a stream? *Environmental Science and Technology* 45: 354-359. [EEP]
69. Doyle, M.W., and M.J. Small (in press). Historical perspectives on stream restoration. *Progress in Physical Geography*. [HIST]
68. Lave, R., M. Doyle, M. Robertson (2010). Privatizing stream restoration in the US. *Social Studies of Science* 40(5): 677-703. [EEP]
67. Ardon, M., J. Morse, M.W. Doyle, and E. Bernhardt (2010). The water quality benefits of restoring a large agricultural wetland on the southeastern coastal plain. *Ecosystems* 13: 1060-1078 [RSS]
66. Hester, E.T., and M.W. Doyle (2011). Human impacts to river temperature and their effects on biological processes: a quantitative synthesis. *Journal of American Water Resources Association* March, doi:10.1111/j.1752-1688.2011.00525.x. [RSS]
65. Julian, J.P., S.Z., Seegert, S.M. Powers, E.H. Stanley and M.W. Doyle (2010). Light as a first-order control on ecosystem structure in a temperate stream. *Ecohydrology* doi:10.1002/eco.144. [RSS]
64. Ardon, M., S. Montanari, J.L. Morse, M.W. Doyle and E.S. Bernhardt (2010). Phosphorus export from a restored wetland ecosystem in response to natural and experimental hydrologic fluctuations. *Journal of Geophysical Research – Biogeosciences* 115, G04031, doi:10.1029/2009JG001169. [RSS]
63. Sholtes, J., and M.W. Doyle (2011). Effect of channel restoration on flood wave attenuation. *Journal of Hydraulic Engineering* 137(2): 196-208. [RSS]
62. Riggsbee, J.A., R. Manners, J.P. Julian, M.W. Doyle, J. Muehlbauer, J. Sholtes, and M.J. Small. Influence of biotic processes on channel forms and processes. *Geomorphology*. [RSS]
61. Doyle, M.W., and R.L. Fuller (in press). Quantitatively evaluating restoration scenarios for rivers with recreational flow releases. *AGU Monograph: Stream Restoration in Dynamic Fluvial Systems*. [RSS]
60. Rauh, N.K., R.F. Townsend, M.C. Hoff, M.Dillon, M.W. Doyle, C. Ward, R. Rothaus, H. Caner, U. Akkemik, L. Wandsnider, S. Ozaner, and C. Dore (in press). Life in the Truck Lane: Urban development in Western Rough Cilicia. *JOAI (Annual of the Austrian Archaeological Institute)*, 100 page ms, Spring 2010. [HIST]
59. Fuller, R.L., C. Griego, J.D. Muehlbauer, J. Dennison, and M.W. Doyle (in press). Response of stream macroinvertebrates in flow refugia and high scour areas to a series of floods: A reciprocal replacement study. *JNABS* [RSS]
58. Patterson, L., and M.W. Doyle (2011). Hypsographic demography across scale. *Professional Geographer* 63(4): 1-17. [EEP]
57. Fuller, R.L., S. Doyle, L. Levy, J. Owens, E. Shope, L. Vo, E. Wolyniak, M.J. Small and M.W. Doyle (2010). Impact of regulated releases on periphyton and macroinvertebrate communities: the dynamic relationship between hydrology and geomorphology in frequently flooded rivers. *River Research and Applications* [RSS]
56. Doyle, M.W. and A. Yates (2010). Stream ecosystem service markets under no-net-loss regulation. *Ecological Economics* 69: 820-827[EEP]
55. Doyle, M.W., and E.H. Stanley (2010, in press). Stream ecosystem response to dam removal. In *Dam Removal, American Society of Civil Engineers Monograph*. [RSS]
54. Riggsbee, A., and M.W. Doyle (2009). Environmental markets: the power of regulation. *Science* 326: 1061. [EEP]

53. BenDor, T., and M.W. Doyle (2010), Planning for ecosystem service markets. *Journal of the American Planning Association* 76: 59-72. [EEP]
51. Havlick, D., and M.W. Doyle (2009). Restoration geographies. *Ecological Restoration* 27(3): 240-243. [EEP]
52. BenDor, T., J. Sholtes and M.W. Doyle (2009, in press). Landscape characteristics of stream and wetland mitigation banking. *Ecological Applications*. [EEP]
51. Doyle, M.W. and S.H. Ensign (2009). Alternative reference frames in river systems science. *BioScience* 59(6): 499-510. [RSS]
50. Orr, C.H., J.J. Clark, P.R. Wilcock, J.C. Finlay, and M.W. Doyle. Morphological and biologic control of limiting nutrient uptake in a field-scale flume (2009). *Journal of Geophysical Research-Biogeosciences* 114, G02019, doi:10.1029/2008JG000825. [RSS]
49. Doyle, M.W., and D. Havlick (2009). Infrastructure in the environment. *Annual Review of Environment and Resources* 34: 349-373. [EEP]
48. Ensign, S.H., M. Piehler, and M.W. Doyle. (2009). Riparian zone denitrification affects nitrogen flux through a tidal freshwater river. *Biogeochemistry* 91: 133-150. [RSS]
47. Lave, R., M.M. Robertson, and M.W. Doyle (2008). Why you should pay attention to stream mitigation banking. *Ecological Restoration* 26:287-289. [EEP]
46. Patterson, L., and M.W. Doyle (2009). Assessing effectiveness of national flood policy through spatiotemporal monitoring of socioeconomic exposure. *Journal of the American Water Resources Association*, 45:1-16. [EEP]
45. Craig, L.S., M.A. Palmer, D.C. Richardson, S. Filoso, E.S. Bernhardt, B.P. Bledsoe, M.W. Doyle, P.M. Groffman, B.A. Hassett, S.J. Kaushal, P.M. Mayer, S.M. Smith, and P.R. Wilcock (2008). Stream restoration strategies for reducing river nitrogen loads. *Frontiers in Ecology and Environment* 6, doi: 10.1890/070080. [RSS]
44. Julian, J.P., E.H. Stanley and M.W. Doyle (2008). Basin-scale consequences of agricultural land use on benthic light availability and primary production along a sixth-order temperate river. *Ecosystems*, 11:1091-1105. [RSS]
43. Hester, E.T., and M.W. Doyle. (2009). The influence of in-stream geomorphic structures on stream temperature via induced hyporheic exchange, *Limnology and Oceanography*, 54: 355-367. [RSS]
42. Julian, J.P., M.W. Doyle and E.H. Stanley (2008). Optical water quality in rivers. *Water Resources Research*, vol 44, W10411, doi:10.1029/2007WR006457. [RSS]
41. Julian, J.P., M.W. Doyle, and E.H. Stanley (2008). Empirical modeling of light availability in rivers. *Journal of Geophysical Research-Biogeosciences*, 113, G03022, doi: 1029/2007JG000601. [RSS]
40. Riggsbee, A., C. Orr, D. Leech, M.W. Doyle and R. Wetzel (2008). Suspended sediments in river ecosystems: photochemical sources of dissolved organic carbon, dissolved organic nitrogen and adsorptive removal of dissolved iron. *Journal of Geophysical Research-Biogeosciences*, 113, doi:10.1029/2007JG000654. [RSS]
39. Doyle, M.W., E.H. Stanley, D.G. Havlick, M. Kaiser, G. Steinbauch, W.L. Graf, G.E. Galloway, J.A. Riggsbee (2008). Aging infrastructure and ecosystem restoration. *Science* 319(5861): 286-287. [EEP]
38. Small, M.J., M.W. Doyle, R. Fuller, and R. Manners (2008). Geomorphic vs hydrologic control on stream ecosystems: example using organic matter. *Freshwater Biology* doi:10.1111/j.1365-2427.2008.01999. [RSS]
37. Hester, E.T., and M.W. Doyle (2008). Efficacy of in-channel geomorphic structures for hyporheic exchange. *Water Resources Research* Vol 44, W03417, doi:10.1028/2006WR005810. [RSS]
36. Doyle, M.W. and C. Shields (2008). A measure of discharge effectiveness over the entire flow distribution. *Earth Surface Processes and Landforms* 33: 308-316. [RSS]
35. Manners, R., and M.W. Doyle (2008). A mechanistic model of woody debris jam evolution and its application to wood-based restoration and management. *River Research and Applications* (in press). [RSS]
34. F.D. Shields, Jr., R.R. Copeland, P.C. Klingeman, M.W. Doyle and A. Simon (2008). River Restoration. In Garcia, M. (ed.), *Erosion and Sedimentation: ASCE's Manual 54, 2nd Edition*. [RSS]
33. Riggsbee, A., J. Julian, M.W. Doyle and R. Wetzel (2007). Carbon and nitrogen loading during the dam removal process. *Water Resources Research*, Vol 43, W09414, doi: 10.1029/2006WR005318. [RSS]

32. Manners, R., M.W. Doyle, and M.J. Small (2007). Structure and hydraulics of natural woody debris jams. *Water Resources Research* 43, W06432, doi: 10.1029/2006WR004910. [RSS]
31. Doyle, M.W., F.D. Shields, K.F. Boyd, P.E. Skidmore, and D.E. Domminick (2007). Channel-forming discharge selection in river restoration design. *Journal of Hydraulic Engineering* 133: 831-837. [RSS]
30. Renschler, C.S., M. Doyle and M. Thoms (2007). Geomorphology and ecosystems: Challenges and keys to success. *Geomorphology* 89: 1-8. [RSS]
29. Simon, A., M. Doyle, M. Kondolf, F.D. Shields, B. Rhoads, and M. McPhillips (2007). Critical evaluation of how the Rosgen Classification and associated natural channel design methods fail to integrate and quantify fluvial processes and channel response. *Journal of the American Water Resources Association*, 43(5): 1-15. [EEP]
28. Post, D.M., M.W. Doyle, J.L. Sabo, and J.C. Finlay (2007). The problem of boundaries in defining ecosystems: a potential landmine for uniting geomorphology and ecology. *Geomorphology*: 111-126. [RSS]
27. Ensign, S.H., and M.W. Doyle (2006). Nutrient spiraling in streams and river networks. *Journal of Geophysical Research – Biogeosciences*, 111, G04009, doi: 10.1029/FG000114. [RSS]
26. Doyle, M.W., and E.H. Stanley (2006). Exploring links between fluvial geomorphology and nutrient-periphyton dynamics using simulation models. *Annals of Assoc. of American Geographers* 96(4): 687-698. [RSS]
25. Doyle, M.W. (2006). A heuristic model for potential geomorphic influences on trophic interactions in streams. *Geomorphology*, 77: 235-248. [RSS]
24. Fraser, F., M.W. Doyle and H. Young (2006). Creating effective flood mitigation policies. *EOS* 87(27): 265,270. [EEP]
23. Shields, F.D., E.J. Langendoen, and M.W. Doyle (2006). Adapting existing models to examine the effects of agricultural conservation programs on stream habitat quality. *Journal of the American Water Resources Association* 42(1): 25-33. [RSS]
22. Doyle, M.W., E.H. Stanley, D. Strayer, R. Jacobson, and J.C. Schmidt (2005). Effective discharge analysis of ecological processes in streams. *Water Resources Research*, 41, W1141, doi: 10.1029/2005WR004222. [RSS]
21. Doyle, M.W. (2005). Incorporating hydrology into nutrient spiraling theory. *Journal of Geophysical Research* 110, G01003, doi: 10.1029/2005JG000015. [RSS]
20. Ensign, S.E., and M.W. Doyle (2005). In-stream transient storage and associated nutrient retention: Evidence from experimental manipulations. *Limnology and Oceanography*, 50: 1740-1751. [RSS]
19. Doyle, M.W., E.H. Stanley, C.H. Orr, A.R. Selle, and J.M. Harbor (2005). Response of stream ecosystems to dam removal: Lessons from the heartland. *Geomorphology* 71: 227-244.
18. Doyle, M.W. and J. Julian (2005). The most cited works in geomorphology. *Geomorphology* 72: 238-249. [RSS]
17. Sethi, S.A., A.R. Selle, M.W. Doyle, E.H. Stanley, and H.E. Kitchel. 2004. Response of unionid mussels to dam removal in Koshkonong Creek, Wisconsin (USA). *Hydrobiologia* 525:157-165. [RSS]
16. Doyle, M.W., A.R. Selle, J.M. Stofleth, E.H. Stanley, and J.M. Harbor (2003). Predicting the depth of erosion following dam removal using a bank stability model. *International Journal of Sediment Research*, 18(2): 128-134. [RSS]
15. Doyle, M.W., and J.M. Harbor (2003). Modeling the effect of form and profile adjustments on channel equilibrium timescales. *Earth Surface Processes and Landforms* 28: 1271-1287. [RSS]
14. Doyle, M.W., E.H. Stanley, and J.M. Harbor (2003). Hydrogeomorphic controls on phosphorus retention in streams. *Water Resources Research* 36(6): 1147, doi: 10.1029/2003WR002038. [RSS]
13. Doyle, M.W., E.H. Stanley, and J.M. Harbor (2003), Channel adjustments following two dam removals in Wisconsin. *Water Resources Research*. 39(1), 1011, doi: 10.1029/2002WR001714. [RSS]
12. Shields, F.D., R.R. Copeland, P.C. Klingeman, M.W. Doyle, and A. Simon (2003). Sedimentation engineering for stream restoration: A Review. *Journal of Hydraulic Engineering* 129(8): 575-584. [RSS]

11. Doyle, M.W., E.H. Stanley and J.M. Harbor (2003). Towards policies and decision-making for dam removal. *Environmental Management* 31(4): 453-465. [EEP]
10. Doyle, M.W., and J.M. Harbor (2003). A scaling approximation of equilibrium time-scales for sand-bed and gravel-bed rivers responding to base-level lowering, *Geomorphology* 54: 217-223. [RSS]
9. Wilcock, P.R., J.C. Schmidt, M.G. Wolman, W.E. Dietrich, D. Dominick, M.W. Doyle, G.E. Grant, R.M. Iverson, D.R. Montgomery, T.C. Pierson, S.P. Schilling, and R.C. Wilson (2003). When Models Meet Managers: Examples from Geomorphology. In Wilcock, P.R. and R.M. Iverson (eds.), *Prediction in Geomorphology*. American Geophysical Union: 27-40. [EEP]
8. Myers-Kinzie, M., A. Space, C.F. Rich, and M.W. Doyle (2003). Relationship of unionid mussel occurrence to channel stability in urban streams. *Internationale Vereinigung für Theoretische und angewandte Limnologie Verhandlungen* 28(2): 822-826. [RSS]
7. Stanley, E.H., and M.W. Doyle (2003). Trading off: the ecological effects of dam removal. *Frontiers in Ecology and the Environment* 1: 15-22. [RSS]
6. Doyle, M.W., E.H. Stanley, J.M. Harbor, and G.E. Grant (2003). Dam removal in the United States: Emerging Needs for Science and Policy, *EOS* 84(4): 29-33. [EEP]
5. Doyle, M.W., E.H. Stanley, and J.M. Harbor (2002). Geomorphic analogies for assessing probable channel response to dam removal. *Journal of the American Water Resources Association* 38(6): 1567-1579. [RSS]
4. Stanley, E.H., and M.W. Doyle (2002). A geomorphic perspective on nutrient retention following dam removal. *BioScience* 52(8): 693-701. [RSS]
3. Stanley, E.H., M.A. Luebke, M.W. Doyle, and D.W. Marshall. (2002). Short-term changes in channel form and macroinvertebrate communities following low-head dam removal in the Baraboo River, Wisconsin. *Journal of the North American Benthological Society* 21: 172-187. [RSS]
2. Doyle, M.W. and F.D. Shields, Jr. (2000). Incorporation of bed texture into a channel evolution model. *Geomorphology* 34: 291-309. [RSS]
1. Doyle, M.W., C.F. Rich, J.M. Harbor and A. Spacie (2000). Examining the effects of urbanization on streams using indicators of geomorphic stability. *Physical Geography* 21(2): 155-181. [RSS]

Peer-Reviewed Book Chapters

1. Doyle, M.W., and T. BenDor (in press). Freshwater ecosystem service markets. *Water Markets*. [EEP]

Law Reviews

1. Womble, P., and M.W. Doyle (2012, in press). Geographic constraints to ecosystem service markets: case study in stream and wetland mitigation banking. *Harvard Environmental Law Review*.
2. Doyle, M.W., and T. BenDor (2012, in press). Evolving law and policy of freshwater ecosystem service markets. *William & Mary Environmental Law and Policy Review*.

Editorials, Commentaries, and Non or Less Peer-reviewed

5. Womble, P., and M.W. Doyle (2010). Setting geographic service areas for compensatory mitigation. *National Wetlands Newsletter* Sept/Oct 18-23.
4. Beach, T., N. Dunning and M.W. Doyle. Geoarchaeology and geomorphology: Soils, sediments and societies. *Geomorphology*, 101: 413-415.
3. Doyle, M.W. (2007). The need for exit strategies. *Issues in Science and Technology* (National Academy of Sciences), Winter. [EEP]
2. Doyle, M.W., and M.M. Robertson (2007). Clouded Supreme Court decision necessitates geographic research. *AAG Newsletter* 42(1): 7. [EEP]
1. Renschler, C., M.W. Doyle, and M. Thoms (2006). Geomorphology and ecosystems: challenges and keys for success in bridging disciplines. *Geomorphology* vol 89: 1-8.

Discussions and Replies

5. BenDor, T., and M.W. Doyle (2010). The authors respond [Landscape characteristics of a stream and wetland mitigation program]. *National Wetlands Newsletter*, July/August, 21-23.

4. Shields, F.D., E.J. Langendoen, and M.W. Doyle (2006). Reply: Adapting existing models to examine the effects of agricultural conservation programs on stream habitat quality. *Journal of the American Water Resources Association* 42(6).
3. Doyle, M.W., E.H. Stanley and J.M. Harbor (2003). Reply to J.A. Thornton: Geomorphic analogies for assessing probable channel response to dam removal. *Journal of the American Water Resources Association* 39(5).
2. Doyle, M.W., and J.M. Harbor (2001). Discussion of 'Rapid assessment of channel stability in vicinity of road crossing' by Johnson, P.A., G.L. Gleason and R.D. Hey. *Journal of Hydraulic Engineering* 126: 85-87.
1. Doyle, M.W., and J.M. Harbor (2000). Discussion of 'Evaluation of Rosgen's streambank erosion potential assessment in Northeast Oklahoma', by R. Daren Harmel, C. T. Haan, and Russell C. Dutnell. *The Journal of the American Water Resources Association* 36(5): 1191-1192.

Book Reviews

4. Doyle, M.W. (2006). Review of "River Channel Management. *Geomorphology*, 74: 322-323.
3. Doyle, M.W. (2005). Review of 'River Processes.' *Geomorphology* 65: 338-339.
2. Doyle, M.W. (2004). Review of 'Gravel-bed Rivers 5'. *Geomorphology* 57: 437-439.
1. Doyle, M.W., and J.M. Harbor (2002). Review of 'Dam Removal: Science and Decision Making' by the Heinz Center Panel on Dam Removal. *BioScience* 52(8): 749-750.

Edited Books and Volumes

- Renschler, C.S., M.W. Doyle, and M. Thoms, (2007). Geomorphology and Ecosystems. *Geomorphology*. vol 89, issue 1.
- Urban, M., M. Daniels, and M.W. Doyle (2006). Linking Geomorphology and Ecology, Special issue of the journal *Geomorphology*, volume 77, issue 3.
- Beach, T., M.W. Doyle, and N. Running (2008). Geomorphology and Archaeology: Soils, Sediment, and Societies. Special issue of the journal *Geomorphology*, vol 101, issue 3.

Popular Media Outlets

- Doyle and Gisler, Development rush drives enforcement failures in stream program. *Raleigh News & Observer*, op-ed, April 24, 2011.
- Doyle, Bid the dam goodbye, or bid for it. *Raleigh News & Observer*, op-ed, April 29, 2010.
- Doyle and BenDor, Stream restoration: who really benefits? *Raleigh News & Observer*, op-ed, Dec 2009 [note: supported by editorial following day]
- BenDor and Doyle, Stimulus in a watery state. *Raleigh News & Observer*, op-ed, March 2009.
- Doyle, M.W., and L. Patterson, NC overflows with flood risk. *Raleigh News & Observer* op-ed, Sept 4, 2008.
- Doyle, M.W., Kudos and caution to town board. *News of Orange County* op-ed, May 1, 2008.
- Doyle, M.W., Need for fixes can't be ignored. *Raleigh News & Observer* op-ed, May 25, 2008.

Major Works in Preparation

- Doyle, M.W. *America's Rivers and the American Experiment*. Book manuscript, 50% complete (chapters completed on history of navigation, flood control, hydropower, property rights and takings, and political theory of management; 240 manuscript pages completed)

PRESENTATIONS

Invited Academic Seminars

- 2010 **Purdue University**, Public Lecture Series on the Environment and Department of Earth Science and School of Engineering
- 2009 **University of Pennsylvania, School of Law**-Program on Law, Economy and the Environment

2009 **Georgetown University, Walsh School of Foreign Affairs**-Program on Science, Technology and International Affairs (invited 2009)

2009 **University of North Carolina – Greensboro**, Department of Geography

2008 **Oak Ridge National Laboratory**, Division of Computational Science and Mathematics

2008 **Penn State University**, University-wide and general public lecture series for “EarthTalks”

2008 **Johns Hopkins University**, Department of Geography and Environmental Engineering

2007 **University of Maryland – Baltimore County**, IGERT Water in Urban Program

2007 **Chesapeake Biological Laboratory** – University of Maryland

2007 **Appalachian Laboratory** – University of Maryland

2007 **Duke University**, Nicholas School of Environment and Earth Science

2006 **University of Virginia**, Department of Civil and Environmental Engineering

2006 **University of Wisconsin**, Department of Geography

2005 **Virginia Tech University**, Department of Civil and Environmental Engineering

2005 **Cornell University**, Department of Biological and Environmental Engineering

2004 **Dartmouth College**, Department of Geography and Department of Earth Science

2004 **Institute of Ecosystem Studies**

2004 **University of Connecticut**, Department of Geography

2004 **University at Buffalo**, SUNY, Department of Geography

2004 **USGS Columbia Environmental Research Center** / University of Missouri

2004 **Duke University**, Program in Ecology

2004 **Furman University**, Department of Environmental and Earth Science

2003 **Smithsonian Environmental Research Center**

2003 **Colgate University**, Department of Environmental Science

2002 **University of North Carolina**, Department of Geography

2002 **University of Tennessee**, Department of Civil and Environmental Engineering

1998 **University of Nottingham** (UK), Department of Geography

TEACHING AND ADVISING

Current Graduate Students Advised

JR Rigby (post-doc, 2010-2011)

PhD Duke

Marshall Scholar

NSF Graduate Fellowship

Autumn Thoyre (PhD, Geography, current)

UNC Royster Graduate Fellowship

Scott Ensign (PhD, Ecology, 2011)

Mendenhall Post-Doc (US Geological Survey) starting 2011

EPA STAR Graduate Fellowship

Ecological Society of America – Best Biogeosciences Paper Award 2007

Lauren Patterson (MS, Geography, current) –

Udall Fellowship

William R Boggess Award for best paper published in JAWRA, 2010

NSF Graduate Fellowship

AAG Kasperson Award for Hazards Research 2007

UNC Impact Award 2007

Goldwater Scholar

Melanie Small (PhD, Geography, current)

Jeff Muehlbauer (MS, Ecology, current)

UNC Pogue Graduate Fellowship

NABS President’s Award

Tim Baird (PhD, Geography, current, co-advised with Tom Whitmore)

Fulbright-Hays Fellowship
NSF Doctoral Dissertation Improvement Grant
Chris Sandt (MS, Env Sci & Engin, current)
ASCE Dames and Moore Fellowship

Previous Students and Post-docs Advised:

Erich Hester (PhD, Ecology, 2008); currently Assistant Prof, Virginia Tech Univ
EPA STAR Graduate Fellowship
UNC Pogue Graduate Fellowship
Jason Julian (PhD, Geography, 2007); Currently Assist Prof, University of Oklahoma
Nystrom Award Finalist
Adam Riggsbee (PhD, Env Sci and Engin. 2006, UNC): currently: Principal/Owner: Riverbank
Ecosystems, Austin TX.
Cailin Orr (Post-doc, 2005-2006, UNC): currently Assistant Prof, Washington State Univ
Joel Sholtes (MS, Geography, 2009)
Rebecca Manners (MA, Geography, 2006, UNC): Currently PhD Student, Utah State Univ.
Reds Wolman Award 2005;
Stirling Hydroecology Award 2006

Undergraduate Students Advised/Mentored (year of graduation and last known location)

Philip Womble (BS, Environ Science, current)
Udall Finalist, Environmental Law Institute Intern
Nicholas Pollite (BA, Geography, 2009; Peace Corps volunteer)
Ben Bogardus (BS, Environ Science, current)
NOAA Hollings Scholar
Sally Whisler (BS, Environ Studies/Biology, 2008; RTI environ scientist)
Frank Smith (BA, Geography, 2006; Biosystems Engineering graduate student, VA Tech)
Brad Bennett (BS, Environmental Science, 2006; Civil engineer)
Jordan Kern (BS, Environmental Science, 2007; Dept of Energy)
Derek Gregory (BS, Geology, 2006; US Air Force)
Sarah Carter (BA, Geography, 2005; AmeriCorps volunteer)
Elizabeth Caron (BS, Geology, 2003; Geography graduate student, Univ of Connecticut)

Graduate Student Committees

Tamara Mittman (PhD Geography, current); Monica Lipscomb (PhD Geography, current); Eric Money (ES&E, current); Elizabeth Sudduth (PhD, Duke Biology, current); Christy Royer (PhD, Ecology, current); Catherine Shields (MA, Geography, 2007); Dan Weiss (PhD, Geography, current), David Havlick (PhD, Geography, 2007), Peter Shen (PhD, Geography, 2005), David Luther (PhD, Ecology, 2007), Russ Mapes (PhD, Geology, current), Periann Russel (PhD, NCSU, current), Mark Murphy (MS, Geography, 2004), Priscilla Benson (MS, ES&E, 2004), Lindsay Dubbs (MS, ES&E, 2004), Neely Law (PhD, Geography, 2003)

Graduate and Undergraduate Courses

Eco-hydraulics, Floodplain Processes, Sediment Transport (Purdue), Field Methods, Fluvial Geomorphology, Environmental Geography, Capstone Course in Geography

Short Courses

Hydrology, Hydraulics, Geomorphology, Sediment Transport, River Restoration, Watershed Management

UNIVERSITY, PROFESSIONAL, AND COMMUNITY SERVICE

International Service

Lifewater International. Volunteer hydrologist for water resources development projects in developing nations

Kenya, 1999 – Well drilling and water planning

Uganda, 2000 – Well drilling and training

El Salvador, 2006 – Surveying of water distribution pipeline; water quality analysis; water planning

Editorial Boards

Ecology

Water Resources Research

Annals of the Association of American Geographers

Proposal Reviews

NSF-Hydrologic Sciences (9)

NSF-Geomorphology and Land Use Change (3)

NSF-Geography and Regional Science (7)

NSF Ecology (2)

NSF-Ecosystems (1)

National Oceanic and Atmospheric Administration (1)

CALFED Delta-Bay Program (4)

National Geographic – Council on Research and Exploration (1)

Manuscript Reviews (ad hoc – not included editing duties) (~75 total):

American Philosophical Society (1 paper, 1 book)

Annals of the Association of American Geographers (2)

Biogeochemistry (2)

BioScience (1)

Canadian Journal of Fisheries and Aquatic Sciences (1)

Earth-Science Reviews (1)

Earth Surface Processes and Landforms (5)

Ecological Applications (2)

Ecological Economics (1)

Ecological Monographs (1)

Ecology (2)

Ecology and Society (1)

Ecology Letters (2)

Environmental Management (3)

Geological Society of America Bulletin (1)

Geomorphology (9) (excluding special issues edited)

Geophysical Research Letters (1)

Gravel-bed Rivers (1)

Hydrological Processes (1)

Journal of the American Water Resources Association (4)

Journal of Geophysical Research – Biogeoscience (1)

Journal of Geophysical Research – Earth Surface (3)

Journal of Hydraulic Engineering (7)

Journal of Hydrologic Engineering (1)

Limnology and Oceanography (2)

Physical Geography (1)

Proceedings of the National Academy of Sciences (1)

Professional Geographer (2)

Remote Sensing of Environment (1)

Science (1)

Water Resources Research (18)

Water Research (1)

National Nomination and Award Committees

Association of American Geographers

Awards Committee – Geomorphology Specialty Group (2008-present)

Successfully nominated Michael Malin and Kenneth Edgett for the 2002 AAG G.K. Gilbert Award for their article “Evidence for recent groundwater seepage and surface runoff on Mars,” *Science*, 288: 2330-2335.

Service to Academe

Tenure and Promotion External Reviews:

[several]

External reviewer for doctoral candidates

[several]

Departmental and University Activities

University of North Carolina

Provost Office

UNC Provost Research Awards

UNC Task Force on Future Promotion and Tenure Policies and Practices (2008 in present)

UNC / Institute for Environment Climate Change Committee (for Senator Basnight)

UNC Faculty Committee on Research (2008-present)

UNC Tomorrow Commission Response Team – Environment (2008)

Department of Geography:

Director of Undergraduate Curriculum (2010-present)

International Development Search Committee (2010)

Environmental Change Faculty Search Committee Chair (2008-2009)

South Asia Faculty Search Committee (2007-2008)

Colloquium Committee, Chair (2005-2006)

Graduate Studies Committee (2003-present)

Human-Environment Faculty Search Committee (2005-2006)

Institute for the Environment

Center for Landscape Change and Health (Director, 2007-present)

Strategic Planning Committee (“Berke Committee”) (2008)

Curriculum Review Committee (“Band Committee”) (2008)

Curriculum in Ecology:

Admissions Committee, Chair (2005-2006)

Curriculum Review Committee (2002-2003)

Graduate Studies Committee Chair (2005-2006)

Graduate Studies Committee (2003-2004)

Purdue University

School of Science

Dean Search Committee (2001-2002)

Grade Appeals Committee (2001-2002)

Alumni Activities:

Initiated, Organized, and Managed Fund-raising for Endowment of the Duane McCampbell Scholar Program at Harding University

PRESENTATIONS AND NON PEER-REVIEWED PUBLICATIONS

Presented numerous invited and ad hoc conference papers, abstracts, peer-reviewed and non peer-reviewed papers at meetings of the Association of American Geographers

American Geophysical Union
American Society of Civil Engineers
American Association for the Advancement of Science
American Society for Limnology and Oceanography
North American Benthological Society
Ecological Society of America
Association of State Floodplain Managers
Binghamton Geomorphology Symposium