### MARK GRIFFIN SMITH

### OFFICE ADDRESS

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### EDUCATION

DOCTOR OF PHILOSOPHY, December 1987 Duke University Department of Economics and Department of Forestry and Environmental Studies <u>Dissertation</u>: Short-run water supply allocation under uncertainty: markets and market failure <u>Concentration</u>: Natural resource and environmental economics, water resource systems, public finance, and industrial organization

MASTER OF SCIENCE, May 1986 Duke University Department of Forestry and Environmental Studies <u>Thesis</u>: A spatial equilibrium model for water resources assessment: a case study of Cyprus

BACHELOR OF ARTS, June 1979 Harvard University <u>Major</u>: Economics <u>Honors</u>: *Cum laude* with high honors in economics <u>Senior thesis</u>: Appropriate technology and economic cost-benefit analysis

**GRANTS & AWARDS** 

Fulbright-Schuman European Affairs Scholar – 2009 Research on the EU Emissions Trading Scheme for GHG Emissions.

Resources for the Future Grant, Resources for the Future - 1989

Colorado College:

John and Beverly Knight Chair for the Study of Free Enterprise – 2017-2020 Award for Outstanding Contributions to Sustainability - 2007 John and Beverly Knight Chair for the Study of Free Enterprise - 1999-2002 (first holder) RGK Foundation – Grant for wireless classroom initiative – 2000 (first on campus) Outstanding Faculty Advisor Award – 1991 (first year award was awarded)

# ACADEMIC EXPERIENCE

<u>Professor of Economics</u>, Colorado College. 2002 – Present <u>Associate Professor of Economics</u>, Colorado College. 1993 – 2002 <u>Assistant Professor of Economics</u>, Colorado College. 1988 – 1993 Courses taught: environmental economics, resource economics, microeconomic theory, research methods, industrial organization, principles of economics, the Colorado River, water in the west, natural resource management. Advisor for the minor in resource systems in the American west and the minor in Central American Studies; assistant department chair, fall, 1993; acting department chair, spring 1994; assistant department chair 1996 to 2000. Chair, Faculty Executive Committee, 1999-2000. Department Chair, 2000-2003. Director, Schlessman Program for Business in a Changing World, 2003-2009

<u>Adjunct Professor</u>, Josef Korbel School of International Studies. University of Denver. Courses taught: environmental economics, global water resources, economics of climate change. 2003-2011

<u>Visiting Assistant Professor of Water Resources Management</u>, School of Forestry and Environmental Studies, Duke University. Courses taught: forest hydrology, water resource systems, seminar in air and water resources. 1986-1988

# OTHER PROFESSIONAL EXPERIENCE

<u>Consultant</u>, Valuation of water bank mitigation rights in the Yakima River Basin. This was a consulting project to an entity that holds significant water rights in the Yakima Basin. 2015

<u>Consultant</u>, "Protecting Local Economies: Legislative Options to Protect Rural Communities in Northeast Washington from Disproportionate Economic, Agricultural, and Environmental Impacts when Upstream Water Rights are Purchased and Transferred for Use, or Idled and Used as Mitigation, in a Downstream Watershed or County," Report to the Legislature, State of Washington, 2008. (The legislature was interested in legislative options, I wrote the appendix on third-party economic impacts.) 2008

<u>Consultant</u>, Water Reuse Foundation. Member of the peer-review committee for a decision support system to guide water utilities in developing water reuse projects, 2011-2012

<u>Project Manager/Research Scholar</u>, Water Resources Project, International Institute for Applied Systems Analysis, Laxenburg, Austria. Coordinated research efforts of a multi-national, multidisciplinary team of eight research scholars. Researched use of economics instruments for water quality management in central and eastern Europe. Developed economic component of an integrated water quality/economic planning decision support system (STREAMPLAN) 1994–1996

## OTHER PROFESSIONAL EXPERIENCE (cont.)

<u>Consultant</u>. Water Supply and Sewerage Division, Europe, Middle East and North Africa Department, The World Bank. Developed spatial equilibrium model for regional and national scale water resources assessment. 1984-1986

Coach. Department of Athletics, Duke University. 1984. Coached men's crew team.

<u>Research and Teaching Assistant</u>, School of Forestry and Environmental Studies, Duke University. 1982 – 1986. Developed database for study on returns to research in southern forestry. Conducted weekly discussion sessions in resource economics. Lectured on water resource economics.

<u>Research Assistant</u>, Industrial Development and Finance Department, The World Bank. 1981 – 1982. Researched finance of food processing industries. Served as rapporteur for international conference on finance of small-scale industry in Asia.

<u>Staff Assistant</u>, The President's Nuclear Safety Oversight Committee, 1991. Researched safety programs of the Nuclear Regulatory Commission.

<u>Research Assistant</u>, Appropriate Technology International, 1979-1981. Appraised small-scale projects. Served as rapporteur for international conference on appropriate technology in Asia.

## **REVIEWED PUBLICATIONS**

- Burns, J. B., Payne, M. T., and Smith, M. G. "Measuring Trends in Western Water Rights Prices," <u>Journal of the American Water Resources Assoc</u>. (revise and resubmit).
- Payne, M. T., Smith, M.G. and Landry C. J. "Price Variation in the Market for Water Rights in the South Platte River Basin," Journal of the American Water Resources 1-13. June 2014.
- Payne, M. T. and Smith, M.G. "The Influence of the Real Estate Market on Water Right Values in New Mexico's Middle Rio Grande Basin," <u>International Journal of Water Resources Development</u> 29 (4) December 2013, pp. 588-604.
- McMahon, T. and Smith, M. G. "The Arkansas Valley Super Ditch: A Local Approach to Rotational Fallowing to Prevent Water Transfers" <u>Journal of the American Water</u> <u>Resources Association</u> 49 (1) January 2013, pp. 151-159.
- Fenn, A.; Johnson, D.; Smith, M. G. and Stimpert, J. L. "Doing Publishable Research with Undergraduates," Journal of Economic Education 41 (3) June 2010, pp. 259-274.

### REVIEWED PUBLICATIONS (cont.)

- Smith, M. G. "Case Studies on Location: Taking to the Field in Economics," <u>Journal of Economic Education</u> 38 (3) Summer 2007, pp. 308-317.
- Smith, M. G. "Dam Removal: A Taxonomy with Implications for Economic Analysis," Journal of <u>Contemporary Water Research and Education</u> 134, July 2006, pp. 34-38.
- Klaassen, G.; Nentjes, A. and Smith, M. G. "Testing the Theory of Emissions Trading: Experimental Evidence on Alternative Mechanisms for Global Carbon Trading," <u>Ecological</u> <u>Economics</u> 53 (1), 2005, pp. 47-58.
- Smith, M. G., De Marchi, C. and Jolma, A. "Paddling Enforceable Approaches Upstream to EU Standards? Water Quality Management and Policy Implementation in Central and Eastern Europe," <u>Water Science and Technology</u> 40(10), 1999, pp. 73-79
- De Marchi, C.; Ivanov, P.; Jolma, A.; Masliev, I.; Smith, M.G.; and Somlyódy, L. "Innovative Tools for Water Quality Management and Policy Analysis: DESERT and StreamPlan," <u>Water</u> <u>Science and Technology</u> 40(10), 1999, pp. 103-110.
- De Marchi, C.; Jolma, A.; Smith, M.G.; Perera, B.J.C. and Somlyódy, L. "StreamPlan: A Support System for Water Quality Management on a River Basin Scale," <u>Environmental Software</u> and Modeling 12(4), 1997 pp. 275-284.
- Smith, M.G. "Stnaje I Doseg Gospodarskih Mjera I institucija U Upravljanju Kvalitetom Voda (The State of the Art in Economic Instruments and Institutions for Water Quality Management)," <u>Hrvatske Vode</u> 3(10-11), 1996, pp. 173-187, (translated into Croatian by Borivoj Glumbi).
- Naeser, R.B. and Smith, M.G. "Playing with Borrowed Water: Conflicts of Instream Flows on the Upper Arkansas River," <u>The Natural Resources Journal</u> 24 (Winter 1995), pp. 93-110.
- Howe, C. W. and Smith, M. G. "The Value of Water Supply Reliability in Urban Water Systems," Journal of Environmental Economics and Management 24 (1994): 19-30.
- Howe, C.W. and Smith, M.G. "Incorporating Public Preferences in Planning Urban Water Supply Reliability," <u>Water Resources Research</u> 29 (October 1993): 3363 3369.
- Smith, M. G. and Marin, C. M. "Analysis of Short-run Domestic Water Supply Allocation under Uncertainty," <u>Water Resources Research</u> 29 (August 1993): 2909 2916.
- Marin, C. M. and Smith, M. G. "Water Resources Assessment: A Spatial Equilibrium Approach," <u>Water Resources Research 24</u> (June 1988): 793 – 801.

### OTHER PUBLICATIONS

- Smith, M.G., "Mistakes and How to Make Them: Lessons from 25 Years of Field Trips." Proceedings of the Symposium on Field Study: Establishing Best-Practices at the Intersection of Place, Pedagogy, Innovation and Technology, Colorado College, 2016.
- Naeser, R.B. and Smith, M.G., "Water as Property in the American West." in A.V. Fotland, ed. <u>History of Water, Vol. II – The Political Economy of Water</u>, London: I.B. Tauris, 2007.
- Howe, C.W. and Smith, M.G. with Bennett, L.; Brendecke, C.M.; Flack, J.E.; Hamm, R.M.; Mann, R.; Rozaklis, L.; and Wunderlich, K. "The Value of Water Supply Reliability in Urban Water Systems." in K.W. Easter and M.E. Renwick, eds. <u>Economics of Water Resources</u>, The International Library of Environmental and Economics Series, Aldershot, Hampshire, UK: Ashgate, 2004.
- Klaassen, G.; Nentjes, A. and Smith, M.G.. "Testing the Dynamic Theory of Emissions Trading: Experimental Evidence for Global Carbon Trading," IR-01-063, Laxenburg: International Institute for Applied Systems Analysis, November 2001.
- Naeser, R.B. and Smith, M.G. "Enforcing Property Rights in Western Water: Is it Better to Be Upstream with a Shovel or Downstream with a Model?" in T.L. Anderson and P.J. Hill, eds., <u>The Technology of Property Rights</u>, The Political Economy Forum Series, Lanham: Rowman and Littlefield, 2001.
- De Marchi, C.; Jolma, A.; Maslieve, I.; Perera, B.J.C.; Smith, M.G.; and Somlyódy, L. "StreamPlan User's Manual," Laxenburg: International Institute for Applied Systems Analysis, May 1996.
- Klaassen, G. and Smith, M.G. (eds.) "Financing Environmental Quality in Central and Eastern Europe: An Assessment of International Support," IIASA Conference Paper, International Institute for Applied Systems Analysis, Laxenburg, Austria, October 1995.
- Klaassen, G.; Smith, M.G.; Zapfel, P.; Amann, M. "The Effectiveness of International Financial Instruments for Environmental Investment in CEE Countries: Recipients' Perspectives," Bundesministerium Für Umwelt, Österreich, and the UK Department of the Environment, Band 37/1995.
- Feher, J.; Lence, B.; Masliev, I.; Smith, M.G. and Somlyódy, L. "Systems Approaches for Analysis of Water Quality Management of the Sió, Kapos, Veszpremi-Sed, Malom, Nador and Gaja River System (Hungary)," IIASA Working Paper WP-95-111, Laxenburg: International Institute for Applied Systems Analysis, December 1995.
- Smith, M.G. "The State of the Art in Economics Instruments and Institutions for Water Quality Management," in V. Novotny and L. Somlyódy, eds., <u>Remediation and Management of</u> <u>Degraded River Basins</u>, NATO Advanced Science Institute Series, Berlin: Springer, 1995.

OTHER PUBLICATIONS (cont.)

- Smith, M.G. "The Finance of Small-Scale Industry, "Proceedings of a conference held in Colombo, Sri Lanka by the Industrial Development and Finance Department, The World Bank, 1982.
- Blush, S. and Smith, M.G. "Reactor Safety Programs of the Nuclear Regulatory Commission," Report of the President's Nuclear Safety Oversight Committee, 1981.
- Smith, M.G. "Appropriate Technology in Asia," Proceedings of a conference held in Bangkok, Thailand by Appropriate Technology International, 1980.

PROFESSIONAL SOCIETIES: American Economics Association Association of Environmental and Resource Economists American Water Resources Association

### **REFERENCES UPON REQUEST**