

KELLY MICHELE COBOURN
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EDUCATION

Ph.D. Agricultural and Resource Economics, University of California, Davis, 2009
M.S. Resource Economics and Policy, University of Maine, 2004
B.A. with High Distinction Economics, University of Virginia, 2001

PROFESSIONAL EXPERIENCE

Assistant Professor, Virginia Tech, Forest Resources and Environmental Conservation, 2013-present
Assistant Professor, Boise State University, Economics, 2009-2013
Research Associate, University of Maine, Resource Economics and Policy, 2005
Legislative Intern, Maine State Office of Policy and Legal Analysis, 2003-2004

HONORS AND AWARDS

Outstanding Doctoral Dissertation Award, Agricultural and Applied Economics Association, 2010
Gordon A. King Outstanding Dissertation Award, University of California, Davis, 2009
Outstanding Master's Thesis Award, Agricultural and Applied Economics Association, 2005
Provost's Fellowship, University of Maine, 2002
Phi Beta Kappa, University of Virginia, 2000

CURRENT TEACHING

FREC 4464 Water Resources Policy & Economics (Fall semester)
FREC 4434 Natural Resource Policy (Spring semester)
FREC 5014 Ethics & Integrity in Forest Resources and Environmental Conservation (Fall semester)
FREC 5984 Advanced Natural Resource Economics (Spring semester, odd years)

PUBLICATIONS (* denotes student or postdoc advisee)

Refereed Journal Articles

- Wade, C.*, K.M. Cobourn, G.S. Amacher, and E. Hester. 2018. "Groundwater Pumping Decisions and Land Subsidence in the Southern Chesapeake Bay Region of Virginia," *Water Resources Research*, in press.
- Elbakidze, L., H.D. Vinson*, K.M. Cobourn, G. Taylor. 2018. "Efficient Water Allocation and Binding Hydrologic Externalities," *Resource and Energy Economics* 53: 147-161.
- Siriwardena, S.*, K.M. Cobourn, and G.S. Amacher. 2018. "Potential for Cooperative Bargaining to Manage the Spread of Emerald Ash Borer with Mixed Public and Private Land Ownership," *Journal of Forest Economics* 32C: 72-83.
- Cobourn, K.M., C.C. Carey, K.J. Boyle, C. Duffy, H.A. Dugan, K.J. Farrell, L. Fitchett, P.C. Hanson, J.A. Hart, V.R. Henson, A.L. Hetherington*, A.R. Kemanian, L.G. Rudstam, L. Shu, P.A. Soranno, M.G. Sorice, J. Stachelek, N.K. Ward, K.C. Weathers, W. Weng*, and Y. Zhang. 2018. "From Concept to Practice to Policy: Modeling Coupled Natural and Human Systems in Lake Catchments," *Ecosphere* 9(5): e02209.
- Cobourn, K.M., G.S. Amacher, and R.G. Haight. 2018. "Cooperative Management of Invasive Species: A Dynamic Nash Bargaining Approach," *Environmental and Resource Economics*, doi: 10.1007/s10640-018-0238-8.
- Chance, E.W.*, K.M. Cobourn, and V.A. Thomas. 2018. "Trend Detection for the Extent of Irrigated Agriculture in Idaho's Snake River Plain, 1984-2016," *Remote Sensing*, 10:145.

- Ji, X.*, and K.M. Cobourn. 2018. "The Economic Benefits of Irrigation Districts under Prior Appropriation Doctrine: An Econometric Analysis of Agricultural Land-allocation Decisions," *Canadian Journal of Agricultural Economics*, doi:10.1111/cjag.12165.
- Chance, E.W.*, K.M. Cobourn, V.A. Thomas, B. Dawson*, A.N. Flores. 2017. "Normalized Difference Moisture Index Method for Identifying Irrigated Areas in the Snake River Plain, Idaho," *Remote Sensing*, 9(7): 546.
- Cobourn, K.M. 2015. "Externalities and Simultaneity in Surface Water-Groundwater Systems: Challenges for Water Rights Institutions," *American Journal of Agricultural Economics*, 97(3): 786.
- Ghosh, S.*, K.M. Cobourn, and L. Elbakidze. 2014. "Water Banking, Conjunctive Administration, and Drought: The Interaction of Water Markets and Prior Appropriation in Southeastern Idaho," *Water Resources Research*, 50(8): 6927.
- Cobourn, K.M., E.R. Landa, G.E. Wagner. 2014. "Of Silt and Ancient Voices: Water and the Zuni Land and People," *National Center for Case Study Teaching in Science*.
- Cobourn, K.M., R.E. Goodhue, and J.C. Williams. 2013. "Managing a Pest with Harvest Timing: Implications for Crop Quality and Price," *European Review of Agricultural Economics*, 40(5): 761.
- Elbakidze, L., and K.M. Cobourn. 2013. "Economic Foundations for Interdisciplinary Modeling in Water Resources Management," *Journal of Contemporary Water Research and Education*, 152: 32.
- Mooney, S., D.L. Young, K.M. Cobourn, and S. Islam. 2013. "Multidisciplinary Research: Implications for Agricultural and Applied Economists," *Journal of Agricultural and Applied Economics*, 45(2): 187.
- Cobourn, K.M., H.J. Burrack, R.E. Goodhue, J.C. Williams, and F.G. Zalom. 2011. "Implications of Simultaneity in a Physical Damage Function," *Journal of Environmental Economics and Management*, 62(2): 278.
- Cobourn, K.M., and N.F. Crescenti. 2011. "The Implications of Surface-Ground Water Hydrology for Optimal Conjunctive Management," *Western Economics Forum*, 10(2): 50.
- Cobourn, K.M. 2011. "Incentives for Individual and Cooperative Management of a Mobile Pest: An Application to the Olive Fruit Fly in California," *American Journal of Agricultural Economics* (proceedings), 93(2): 652.
- Cobourn, K.M. 2005. "Environmental Conservation on Agricultural Working Land: Assessing Policy Alternatives Using a Spatially Heterogeneous Land Allocation Model," *American Journal of Agricultural Economics* (proceedings), 87(5): 1337.

Book Chapters

- Cobourn, K.M., L. Elbakidze, and S. Ghosh*. 2016. "Conjunctive Water Management in Hydraulically Connected Regions in the Western U.S." Chapter 3.1.2 in *Competition for Water Resources: Experiences and Management Approaches in the U.S. and Europe*. Edited by J. Ziolkowska and J. Peterson. Elsevier.

Other Publications

- Henson, V.R., K.M. Cobourn, C.C. Carey, K.J. Boyle, M.G. Sorice, N.K. Ward, and K.C. Weathers. "Closing the Human-Nature Feedback Loop: Understanding People's Responses to Changing Lakes," *Lakeline*, forthcoming.
- Cobourn, K.M., G.S. Amacher, and R.G. Haight. 2016. "Cooperative Management of Invasive Species: A Dynamic Nash Bargaining Approach," in *Forest Economics and Policy in a Changing Environment: How Market, Policy, and Climate Transformations Affect Forests*, Proceedings of the 2016 Meeting of the International Society of Forest Resource Economics, Raleigh, NC, April 3-5.
- Cobourn, K.M. 2012. Book Review of *The Economics and Politics of Climate Change*, eds. D. Helm and C. Hepburn, *Journal of Natural Resources Policy Research*, 4(4): 293-294.

Cobourn, K.M., E.C. Knoesen[†], H.J. Burrack, R.E. Goodhue, J.C. Williams, and F.G. Zalom. 2014. “Olive Fruit Fly: Timing the Harvest to Manage the Pest,” *ARE Update*, 17(6): 5-8. University of California Giannini Foundation of Agricultural Economics.

Working Papers

Cobourn, K.M., X. Ji, S. Mooney, and N.F. Crescenti. “The Effect of Prior Appropriation and Water Right Portfolios on Agricultural Land-Allocation Decisions.” Revise & resubmit.

Cobourn, K.M., G.S. Amacher, and L. Elbakidze. “Bargaining for Recharge: An Analysis of Cooperation and Conjunctive Surface Water-Groundwater Management.”

Ji, X., K.M. Cobourn, and W. Weng. “The Effect of Climate Change on Irrigated Agriculture: Water-Temperature Interactions and Adaptation in the Western U.S.”

Ji, X., and K.M. Cobourn. “Weather Fluctuations, Expectation Formation, and Short-run Behavioral Responses to Climate Change.”

Schons, S., G.S. Amacher, and K.M. Cobourn. “Benefits of Community Fisheries Management to Individual Households in the Floodplains of the Amazon River in Brazil.”

Ward, N.K., L. Fitchett, J.A. Hart, L. Shu, J. Stachelek, W. Weng, Y. Zhang, H.A. Dugan, A. Hetherington, K.J. Boyle, C.C. Carey, K.M. Cobourn, P.C. Hanson, A.R. Kemanian, M.G. Sorice, and K.C. Weathers. “Integrating Fast and Slow Processes is Essential for Simulating Human-Freshwater Interactions.”

Weng, W., K.J. Boyle, C.C. Carey, K.M. Cobourn, H.A. Dugan, K.J. Farrell, P.C. Hanson, S. Brahma, N.K. Ward, K.C. Weathers. “Coupling Lake Water Quality Numerical Simulations and a Hedonic Model to Evaluate Impacts of Changes in Nonpoint Source Nutrient Loading.”

SELECT RESEARCH FUNDING

Gil, Y., K.M. Cobourn, E. Deelman, C. Duffy, A. Kemanian, C. Knoblock, V. Kumar, S. Peckham. DARPA World Modelers Program. “MINT: Model INTEgration through Knowledge-rich Data and Process Composition.” Project budget \$13,000,000; VT budget \$419,911 (2017-2021).

Wynne, R., V. Thomas, G.S. Amacher, K.M. Cobourn. NASA ROSES Land-Cover Land-Use Change Program. “Spatiotemporal Drivers of Fine-scale Forest Plantation Establishment in Village-based Economies of Andhra Pradesh.” VT budget \$599,997 (2017-2020).

Cobourn, K.M., K. Boyle, C. Carey, C. Duffy, and P. Hanson. National Science Foundation, Dynamics of Coupled Natural and Human Systems, “CNH-L: Linking Land-Use Decision Making, Water Quality, and Lake Associations to Understand Human-Natural Feedbacks in Lake Catchments.” Project budget \$1,799,931; VT budget \$1,005,887 (2016-2018).

Maneta, M., K.M. Cobourn, S. Ewing, W.P. Gardner, K. Jencso, J. Kimball, B. Maxwell. USDA National Institute of Food and Agriculture. “Understanding the Hydrologic and Socioeconomic Impacts of Water Use and Resource Allocation in Agricultural Regions under Different Climate and Policy Scenarios.” Project budget \$497,894; VT budget \$147,575 (2016-2019).

Cobourn, K.M., and V. Thomas. Institute of Critical Technology and Applied Science, Virginia Tech, “Identifying the Effects of Climate Change on Irrigated Agriculture using Remote Sensing and Geospatial Water Rights Data.” VT budget \$60,000 (2015-2016).

Haight, R., G. Amacher, K.M. Cobourn. USDA Forest Service, “Biological Invasions in a Management Mosaic: The Cost of Coordination Failure and the Value of Information.” VT budget \$24,987 (2014-2015).

Cobourn, K.M., and A. Flores. NASA ROSES Land-Cover Land-Use Change Program for Early Career Scientists. “Water Institutions and Agricultural Land-Use Change across the Western US.” Project budget \$239,000 (2013-2017).

INVITED PRESENTATIONS

Lake Sunapee Protective Association (2018); National Academy of Sciences (2018); Virginia Tech Department of Geography (2018); Arizona State University (2018); University of Southern California (2018); Michigan State University (2017); Economics of Water and Energy (2017); Western Agricultural Economics Association (2016); University of Tennessee (2015); Western Water Consortium (2015); Allied Social Science Association (2016); Agricultural and Applied Economics Association (2014-2015); NASA Land-Use/Land-Cover Change (2013-2015); Virginia Tech Civil and Environmental Engineering (2015); University of Florida (2015); Resources for the Future (2014); University of Nebraska, Lincoln (2013); NASA Ames Research Center (2012); Montana State University, (2012); American Geophysical Union (2011); Idaho Senate Agricultural Affairs Committee (2011)

GRADUATE AND POSTGRADUATE ADVISING

Ph.D.

Current: Xinde Ji; Weizhe Weng

Former: Shyamani Siriwardena (2016)

M.S.

Current: Adam Beck; Samuel Scott

Former: Eric Chance (2017); Christopher Wade (2016); Erin Murray (2015); Blaine Dawson (2014); Gretchen Beebe (2012)

Postgraduate

Current: V. Reilly Henson

Former: Amy Hetherington (2017); Sanchari Ghosh (2013)

SELECT PROFESSIONAL SERVICE

Leadership

Editorial Council, Journal of Agricultural and Resource Economics, 2018-present

Board of Directors, Universities Council on Water Resources, 2016-present

Chair-Elect, Environmental Section, Agricultural and Applied Economics Association, 2018-present

Chair, Outstanding Dissertation Award Committee, Agricultural and Applied Economics Association, 2016-present

External Evaluator, American Association for the Advancement of Science, 2016-2018

Officer, Committee on Women in Agricultural Economics, 2010-2015

Journal referee

Applied Economic Perspectives and Policy; Canadian Journal of Agricultural Economics; Ecological Economics; Environmental and Resource Economics; European Economic Review; European Review of Agricultural Economics; Hydrology and Earth Systems Science; Journal of Agricultural and Resource Economics; Journal of Contemporary Water Research and Education; Journal of Environmental Economics and Management; Journal of Forest Economics; Journal of Hydrology; Journal of Natural Resources Policy Research/ National Center for Case Study Teaching in Science; Nature Climate Change; Water Resource Economics; Water Resources Research

Grant reviewer

AAAS Second Century Stewardship; NSF Dynamics of Coupled Natural and Human Systems; NSF Interdisciplinary Research in Hazards and Disasters; NSF EPSCoR; USDA AFRI National Integrated Water Quality Program; USDA Methyl Bromide Transition Program; Virginia Agricultural Experiment Station; New York Sea Grant; North Carolina Water Resources Research Institute; California Department of Food and Agriculture