

MICHAEL SPRINGBORN

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Department of Environmental Science and Policy
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EDUCATION

- Ph.D. Environmental Science and Management (2008)**
Economics and Environmental Science Training Program
Donald Bren School of Environmental Science and Management
University of California, Santa Barbara
- M.A. Economics, University of California, Santa Barbara (2004)**
- B.A. Psychology, University of Colorado, Boulder (1999)**

AREAS OF SPECIAL INTEREST

Environmental and resource economics, decision-making under uncertainty.

JOURNAL PUBLICATIONS

- Robert P. Lieli and Michael Springborn. Closing the gap between risk estimation and decision-making: efficient management of trade-related invasive species risk. *The Review of Economics and Statistics*, forthcoming.
- Michael Springborn, Michael Bliss Singer, Thomas Dunne. Sediment-adsorbed total mercury flux through Yolo Bypass, the primary floodway and wetland in the Sacramento Valley, California. *Science of the Total Environment*, forthcoming.
- Michael Springborn, Reuben Keller and Christina Romagosa. The value of nonindigenous species risk assessment in international trade. *Ecological Economics* 70(11), 2011, 2145-2153.
- Carolyn Fischer and Michael Springborn. "Emissions Targets and the Real Business Cycle: Intensity Targets versus Caps or Taxes." *Journal of Environmental Economics and Management* 62(3), 2011, 352-366.
- Eli P. Fenichel, Carlos Castillo-Chavez, M. G. Ceddia, Gerardo Chowell, Paula A. Gonzalez Parra, Graham J. Hickling, Garth Holloway, Richard Horan, Benjamin Morin, Charles Perrings, Michael Springborn, Leticia Velazquez, and Cristina Villalobosi. Adaptive human behavior in epidemiological models. *Proceedings of the National Academy of Sciences* 108(15), 6306-6311, 2011.
- James N. Sanchirico and Michael Springborn. "How to get there from here: Ecological and economic dynamics of ecosystem service provision." *Environmental and Resource Economics* 48(2) 243-267, 2011.
- Christopher J. Costello, Michael Springborn, Carol McAusland, and Andy Solow. "Unintended biological invasions: Does risk vary by trading partner?" *Journal of Environmental Economics and Management* 54(3), 262-276, 2007.

BOOK CHAPTERS

Michael Springborn, Christopher J. Costello, and Peyton Ferrier. "Optimal random exploration for trade-related non-indigenous species risk." *Bioinvasions and Globalization: Ecology, Economics, Management, and Policy*, ed. C. Perrings, H. Mooney and M. Williamson, Oxford University Press, Oxford, 127-144, 2010.

MANUSCRIPTS IN PROGRESS

John Paul Schmidt, Michael Springborn and John Drake. Bioeconomic forecasting of invasive species by ecological syndrome. *Under review*.

Michael Springborn, John Paul Schmidt and John Drake. Cost-Sensitive Risk Assessment for Invasive Plants in the United States. *Proceedings: California Invasive Plant Council Symposium*. *Under review*.

Michael Springborn. Rationalizing international species trade through invasion risk assessment. *Under review*.

OTHER PUBLICATIONS

Reuben Keller and Michael Springborn. Letter to the Editor: "Long-term correlations in European socioeconomic conditions create a bias towards conclusion that an invasion debt occurs." *Proceedings of the National Academy of Sciences* 108(25 E220), 2011.

Peyton Ferrier and Mike Springborn. "Random Inspection Reveal Import Risks." *Amber Waves* 7(3), September, 2009.

Michael Springborn, Christopher J. Costello and Carol McAusland. "Policy and risk processes of trade-related biological invasions." U.S. Department of Agriculture, Economics Research Report, June 2008.

PRESENTATIONS

The California Roundtable on Agriculture and the Environment, Davis, CA, October 2011. "Payments for Ecosystem Services."

20th Annual California Invasive Plant Council Symposium, Tahoe, CA, October 2011, "Cost-sensitive risk assessment for invasive plants in the United States."

Duke University/North Carolina State University/RTI International: Triangle Resource and Environmental Economics Seminar Series, Research Triangle Park, NC, September 2011 (invited), "Learning in a Noisy Environment: Adaptive Management for Inconvenient Models."

1st AERE Summer Conference, Seattle, WA, June 2011, "Learning in a noisy environment: Adaptive management for inconvenient models."

Arizona State University workshop on Macro Economics and the Environment: Climate Change, Policy Design and Sustainability, Tempe, AZ, May 2011 (invited), "Emissions Targets and the Real Business Cycle: Intensity Targets versus Caps or Taxes."

- Invasive Species in a Globalized World (conference)**, Program on the Global Environment, University of Chicago, Chicago, IL, May 2011 (invited), "Rationalizing international species trade through invasion risk assessment."
- 12th Occasional California Workshop on Environmental and Resource Economics**, Santa Barbara, CA, November 2010. "Learning in a noisy environment: Adaptive management for inconvenient models."
- UC Davis Nitrogen Science Symposium**, Davis, CA, October 2010, "The implications of space and fate-specific management of N: California as a policy lab."
- Continental Dialogue on Non-Native Forest Insects & Diseases**, Boston, MA, October 2010 (invited) "Golden Imports and the Three Borers: A Balance Between the Benefits and Unintended Consequences of International Trade."
- 4th World Congress of Environmental and Resource Economists**, Montreal, Canada, July 2010. "Environmental Externalities of International Trade and Transport."
- Report to California Department of Transportation**, Sacramento, CA, May 2010. "Valuation in Decision Making."
- University of California, Berkeley**, Environmental and Resource Economics Seminar Series, Berkeley, California, March 2010, "Closing the gap between risk estimation and decision-making: efficient management of trade-related invasive species risk."
- 2009 Second DIVERSITAS Open Science Conference**, Cape Town, South Africa, October 2009 (invited). "Closing the gap between risk estimation and decision-making: efficient management of trade-related invasive species risk."
- 11th Occasional California Workshop on Environmental and Resource Economics**, Santa Barbara, California, October 2009. "Closing the gap between risk estimation and decision-making: efficient management of trade-related invasive species risk."
- 2009 AAEA & ACCI Joint Annual Meeting**, Milwaukee, Wisconsin, July 2009. "Closing the gap between risk estimation and decision-making: efficient management of trade-related invasive species risk."
- 2009 WEAI Annual Conference**, Vancouver, B.C., Canada, July 2009. "Closing the gap between risk estimation and decision-making: efficient management of trade-related invasive species risk."
- International Symposium on New Developments in Environmental Economics**, Tokyo, Japan, November, 2008 (invited). "Bayesian adaptive management with learning."
- 2008 AAEA & ACCI Joint Annual Meeting**, Orlando, Florida, July 2008. "Policies and processes of environmental risk."
- 16th EAERE Annual Conference**, Gothenburg, Sweden, June 2008. "Bayesian adaptive management with learning."
- UC Davis Department of Economics, Econometrics Seminar Series**, Davis, CA, May 2009, "Estimating the value of information for Bayesian adaptive management."
- Economic and Ecological Science and Management of Invasive Species**, Tempe, Arizona, October 2007. "Bayesian profiling with learning."
- University of Colorado Environmental and Resource Economics Workshop**, Vail, Colorado, September 2007. "Bayesian profiling with learning."
- European Summer School in Resource and Environmental Economics**, Venice, Italy, June 2007. "Unintended biological invasions: Does risk vary by trading partner?"
- 15th EAERE Annual Conference**, Thessaloniki, Greece, June 2007. "Optimal mitigation and R&D policy for stochastic environmental threats"
- 15th EAERE Annual Conference**, Thessaloniki, Greece, June 2007. "Unintended biological invasions: Does risk vary by trading partner?"

- 9th Biennial Conference of International Society for Ecological Economics**, New Delhi, India, December 2006. "Research versus development: optimal policy for stochastic environmental threats."
- 9th Biennial Conference of International Society for Ecological Economics**, New Delhi, India, December 2006. "Unintended biological invasions: Does risk vary by trading partner?"
- 8th Occasional California Workshop on Environmental and Resource Economics**, October 2005. "Unintended biological invasions: Does risk vary by trading partner?"
- Association of Environmental and Resource Economists**, Natural Resources at Risk workshop, June 2005. "International trade and exotic species introductions: impacts by region of origin."
- National Science Foundation**, IGERT Program workshop, May 2005 (poster session). "International trade and exotic species introductions: impacts by region of origin."
- American Geophysical Union**, Joint Assembly Meeting, May 2005 (poster session). "A mass balance analysis of total mercury flux through a large, managed floodplain."

GRANTS

Modeling Anthropogenic Effects in the Spread of Infectious Disease. National Institutes of Health, 2011-2014 (\$1,600,000).

Managing Natural Resources for Adaptive Capacity: the Central Valley Chinook Salmon Portfolio. CALFED Bay-Delta Program (NOAA/US Fish & Wildlife Service/California Department of Fish & Game), 2011-2014 (\$489,343), co-PI.

Comparative analysis of monitoring frameworks for adaptive ecosystem management. Packard Foundation, 2011 (\$75,846), co-PI.

California Nitroscapes: An Environmental, Social, and Economic Evaluation of the Fate and Consequence of Excess N. Agricultural Sustainability Institute of UC Davis and Packard Foundation, 2009 (\$86,986), co-PI.

AWARDS AND HONORS

- Nominated for Associated Students, UC Davis (ASUCD) Excellence in Education Award (2009)
- Biodiversity and Ecosystem Services Training Network (BESTNet) fellow (2007)
- Selected participant and best student paper honor at the European Summer School in Resource and Environmental Economics, Venice International University (2007)
- Selected National Science Foundation IGERT fellow, U.C. Santa Barbara (2003-2008)

TEACHING EXPERIENCE

Courses Developed and Taught

- *Environmental Policy*. Undergraduate level. Winter 2009, 2010, 2011.
- *Environmental Policy Analysis*. Ph.D. level. Spring 2010.
- *Interdisciplinary approaches: Responding to rapid environmental change* (NSF-IGERT training course). Ph.D. level. Winter 2011.

ACADEMIC EXPERIENCE

Assistant Professor - Department of Environmental Science and Policy, U.C. Davis
(2008-present)

OTHER PROFESSIONAL ACTIVITIES

NSF IGERT trainer

Responding to rapid environmental change (REACH) IGERT (2011-present)
Climate Change, Water and Society (CCWAS) IGERT (2011-present)

Project adviser

UC Davis planning study, "Economic Valuation Method for Environmental Resources" for
California Department of Transportation (2009-2010).

Academic Service

Member, UC Davis Agricultural Sustainability Institute, working group on "Nitrogen science,
climate change and agriculture" (2009).

Member, National Center for Ecological Analysis and Synthesis, working group on "Effects of
trade policy on management of non-native forest pests and pathogens" (2008-2009).

Member, working group on "Synthesizing and Predicting Infectious Disease while
accounting for Endogenous Risk (SPIDER)" supported by the National Institute for
Mathematical and Biological Synthesis (NIMBioS) (2009).

Recent Referee activity

*Proceedings of the National Academy of Sciences, Journal of Environmental Economics and
Management; American Journal of Agricultural Economics; Journal of Economic
Dynamics and Control; Canadian Journal of Agricultural Economics; Ecological
Economics; Environmental and Resource Economics; Mathematical Biosciences;
Conservation Biology; Journal of Environmental Management, Bioeconomics of Invasive
Species: Integrating Ecology, Economics, Policy & Management (book chapter).*

Reviewer

U.S. Department of Agriculture, Economic Research Service contractor report (2007)

ADDITIONAL PROFESSIONAL EMPLOYMENT

Accounts Receivable Manager and Sales Supervisor (9/99-8/02)

McMaster-Carr Industrial Supply Company, Atlanta, GA