

ELLEN M. BRUNO

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Berkeley, CA 94720-3310

EDUCATION

University of California, Davis

Ph.D. in Agricultural and Resource Economics

2018

M.S. in Agricultural and Resource Economics

2016

University of California, San Diego

2013

B.S. in Management Science, *summa cum laude*

Minors in Math, Environmental Science

APPOINTMENTS

07/2018 - present

Assistant Professor of Cooperative Extension

Department of Agricultural and Resource Economics

University of California, Berkeley

01/2019 - 07/2021

Associate Director

University of California Agricultural Issues Center

RESEARCH PUBLICATIONS

Bruno, Ellen M., Nick Hagerty, and Arthur R. Wardle. “[The Political Economy of Groundwater Management: Descriptive Evidence from California](#)” In: Ariel Dinar and Gary Libecap, ed., *American Agriculture, Water Resources, and Climate Change*, National Bureau of Economic Research, University of Chicago Press, forthcoming.

Rupiper, Amanda, Joaquim Weill, Ellen M. Bruno, Katrina Jessoe, and Frank Loge. (2022) “[Untapped Potential: Leak Reduction is the Most Cost-Effective Urban Water Management Tool](#).” *Environmental Research Letters* 17.3: 4021.

Bruno, Ellen M. and Katrina Jessoe. (2021) “[Using Price Elasticities of Water Demand to Inform Policy](#).” *Annual Review of Resource Economics* 13.9: 1-15.

Bruno, Ellen M. and Katrina Jessoe. (2021) “[Missing Markets: Evidence on Agricultural Water Demand from Volumetric Pricing](#).” *Journal of Public Economics* 196: 104374.

Mishra, Ashok, Ellen M. Bruno, and David Zilberman. (2020) “[Compound Natural and Human Disasters: Managing Drought and COVID-19 to Sustain Global Agriculture and Food Sectors](#).” *Science of the Total Environment* 754: 142210.

Bruno, Ellen M. and Richard J. Sexton. (2020) “[The Gains from Agricultural Groundwater Trade and the Potential for Market Power: Theory and Application](#).” *American Journal of Agricultural Economics* 102.3: 884-910.

DeVincentis, Alyssa J., Sam Sandoval Solis, Ellen M. Bruno, Amber Leavitt, Anna Gomes, Sloane Rice, and Daniele Zaccaria. (2020) “[Using Cost-Benefit Analysis to Understand Adoption of Winter Cover Cropping in California’s Specialty Crop Systems.](#)” *Journal of Environmental Management* 261: 110025.

Saitone, Tina L. and Ellen M. Bruno. (2020) “[Cost Effectiveness of Livestock Guardian Dogs for Predator Control.](#)” *Wildlife Society Bulletin* 44.1: 101-109.

WORKING PAPERS

“[Recharge Net Metering \(ReNeM\) is a Novel, Cost-effective Management Strategy to Incentivize Groundwater Recharge](#)” with Molly Bruce, Luke Sherman, Andrew T. Fisher, and Michael Kiparsky. (Conditionally accepted at *Nature Water*.)

“[The Dynamic Impacts of Pricing Groundwater](#)” with Katrina Jessoe and W. Michael Hanemann.

“Designing Water Markets for Climate Change Adaptation” with Katrina Jessoe.

“[The Anticipatory Effects of Regulation in Open Access](#)” with Nick Hagerty.

“External Costs of Climate Change Adaptation: Agricultural Wells and Access to Drinking Water” with Jeffrey Hadachek, Nick Hagerty, and Katrina Jessoe.

“Strawberry Fields Forever: Using Producer Choice to Value Groundwater Salinity” with Molly Sears and W. Michael Hanemann.

EXTENSION PUBLICATIONS

Wardle, Arthur R. and Ellen Bruno. (2023) “[Database of Demand Management Actions Under SGMA Goes Live.](#)” The Confluence Blog of the California Institute for Water Resources.

Light, Sarah, Ellen Bruno, and Margaret Lloyd. (2023) “[UCCE Resources on the Economics of Cover Cropping in Annual Rotations.](#)” Sacramento Valley Field Crops Newsletter. July Issue 14.

Friberg, Astrid B., Arthur R. Wardle, and Ellen M. Bruno. (2023) “[How is Demand Management Developing in SGMA Groundwater Sustainability Plans?](#)” *ARE Update* 26.5: 5-8.

Schlauch, Garrison, Ellen Bruno, and Kristin Dobbin. (2023) “[Advancing a Collaborative Agenda to Meet California’s Emergent Groundwater Management Needs.](#)” The Confluence Blog of the California Institute for Water Resources.

Bruno, Ellen M. (2023) “[From Drought to Deluge: Designing Groundwater Pricing Policies to Cope with California’s Water Woes.](#)” *ARE Update* 26.4: 1-3.

Bruno, Ellen M. (2022) “[Pricing Groundwater will Help Solve California’s Water Problems.](#)” *Knowable Magazine* from Annual Reviews.

Bruno, Ellen M. and Heidi Schweizer. (2022) “[The Futures Market for California Water: Challenges and Policy Recommendations.](#)” Property & Environment Research Center Policy Brief. In: Shawn Regan and Eric Edwards, ed., The Future of Water Markets: Obstacles and Opportunities.

Ayres, Andrew, Christina Babbitt, Ellen M. Bruno, and Arthur R. Wardle. (2022). “[Designing Groundwater Markets in Practice: Lessons from Three California Groundwater Basins.](#)” Property & Environment Research Center (PERC) Policy Brief. In: Shawn Regan and Eric Edwards ed., The Future of Water Markets: Obstacles and Opportunities.

Rupiper, Amanda, Joakim Weill, Ellen Bruno, Katrina Jessoe, and Frank Loge. (2022). [“Could Fixing Leaky Pipes Help Solve California’s Water Problems?”](#) *ARE Update* 25.4: 1-4.

Bruno, Ellen M. (2021) [“Identifying Policies to Mitigate the Costs of Drought.”](#) *ARE Update* 25.1: 13-15.

Ayres, Andrew, Ellen Hanak, Brian Gray, Gokce Sencan, Ellen Bruno, Alvar Escriva-Bou, and Greg Gartrell. (2021). [“Improving California’s Water Market: How Water Trading and Banking Can Support Groundwater Management.”](#) Public Policy Institute of California (PPIC) Technical Report.

Bruno, Ellen M., Brittney Goodrich, and Richard J. Sexton. (2021) [“The Outlook for California’s Almond Market.”](#) *ARE Update* 24.6: 9-11.

Goodrich, Brittney, Kristin Kiesel, and Ellen Bruno. (2021) [“Differential Impacts of the COVID-19 Pandemic on California’s Produce and Nut Industries.”](#) *Western Economics Forum* 19.1: 58-74.

Bruno, Ellen M. and Heidi Schweizer. (2021) [“Why Wall Street Investors’ Trading California Water Futures is Nothing to Fear– and Unlikely to Work Anyway.”](#) *The Conversation*.

Wardle, Arthur R., Paige Griggs, and Ellen M. Bruno. (2021) [“A Progress Report on California’s Sustainable Groundwater Management Act.”](#) *ARE Update* 24.3: 1-4.

Bruno, Ellen M., Alyssa DeVincentis, Sam Sandoval Solis, and Daniele Zaccaria. (2020) [“Assessing the Costs and Benefits of Winter Cover Cropping in California.”](#) *ARE Update* 23.6: 9-11.

Bruno, Ellen M., Richard J. Sexton, and Daniel A. Sumner. (2020) [“The Coronavirus and the Food Supply Chain.”](#) *ARE Update* 23.4: 1-4.

Bruno, Ellen M., Andrew Ayres, and Emmanuel Asinas. (2019) [“Managing Flood Water for Aquifer Recharge: Economic Considerations for Policy.”](#) Global Water Forum.

Bruno, Ellen M. and Tina Saitone. (2019) [“Livestock Guardian Dogs: Do the Benefits Outweigh the Costs for Sheep Producers?”](#) *ARE Update* 22.6: 9-11.

Bruno, Ellen M. and David Zilberman. (2019) [“What Does the 2018 Farm Bill Mean for California and the Environment? Spotlight on the Conservation Programs.”](#) *ARE Update* 22.3: 6-8.

Bruno, Ellen M. and Katrina Jessoe. (2018) [“Climate Change and California’s Water Supply: How Can We Adapt?”](#) *ARE Update* 22.1: 1-3.

Bruno, Ellen M. (2018) [“The Economic Impacts of Agricultural Groundwater Markets.”](#) *ARE Update* 21.6: 9-11.

Maples, Stephen R., Ellen M. Bruno, Alejo W. Kraus-Polk, Stacy N. Roberts, and Lauren M. Foster. (2018) [“Leveraging Hydrologic Accounting and Water Markets for Improved Water Management: The Case for a Central Clearinghouse.”](#) *Water* 10.12: 17-20.

Bruno, Ellen M. (2017) [“California’s New Groundwater Law and the Implications for Groundwater Markets.”](#) *ARE Update* 20.4: 1-4.

Bruno, Ellen M. (2015) [“Coping with Future Water Woes in the Western United States.”](#) *EOS* 96.

PODCAST EPISODES & RADIO SEGMENTS

Chalstrom, Taylor (host) and Ellen M. Bruno. (2023). [“Interview with UC Berkeley’s Dr. Ellen Bruno on Groundwater Management and SGMA in 2023 and Beyond.”](#) MyAgLife, Podcast Episode 179.

[“The Ethics and Economics of Trading Water Futures”](#) with Heidi Schweizer on Interlochen Public Radio hosted by Patrick Shea and Morgan Springer. April 29, 2022.

Nocco, Mallika, Faith Kearns, Sam Sandoval (hosts), Alyssa DeVincentis, and Ellen M. Bruno. (2022). [“Cover Crop Hydro-Economics”](#) Water Talk, Podcast Season 3 Episode 31.

Walter, Antoine (host) and Ellen M. Bruno. (2022). [“Can Groundwater Trading Help California Save \\$580 Million per Year?”](#) Don’t Waste Water, Podcast Season 4 Episode 13.

[“Groundwater Price Sensitivity”](#) on California Ag Today Radio hosted by Tim Hammerich. June 14, 2021.

[“Groundwater Economics”](#) on California Ag Today Radio hosted by Tim Hammerich. June 11, 2021.

Chalstrom, Taylor (host) and Ellen M. Bruno. (2021). [“Interview with UCCE’s Ellen Bruno on the Outlook for California’s Almond Market.”](#) MyAgLife, Podcast Episode 91.

[“Economics of Cover Crops”](#) on California Ag Today Radio hosted by Tim Hammerich. December 22, 2020

Gordon, Pheobe (host), Alyssa DeVincentis, and Ellen M. Bruno. (2020). [“Economics of Cover Crops with Alyssa DeVincentis and Ellen Bruno.”](#) Growing the Valley, Podcast Episode 117.

Olson, Michael (host) and Ellen M. Bruno. (2020). [“Will Agriculture Survive the Coronavirus?”](#) The Food Chain Radio Show, Podcast Episode 1228.

Vassallo, Adam (host) and Ellen M. Bruno. (2019). [“The State of California’s Water Resources with Dr. Ellen Bruno.”](#) Prof Talks with Adam Vassallo Podcast, Episode 62.

DECISION-SUPPORT TOOLS AND WEBSITES

Bruno, Ellen, Brittney Goodrich, Mehdi Nemati, Tina Saitone. [ARE Discussions](#): A recorded economics webinar series for California’s agricultural and natural resource communities.

Bruno, Ellen, Faith Kearns, Safeeq Khan. [UC ANR Monthly Water Webinar](#): A recorded interdisciplinary water webinar series of UC speakers intended to facilitate networking, sharing, and learning.

DeVincentis, Alyssa, and Ellen Bruno. [Cover Crop Cost-Benefit Calculator](#) for winter cover crop adoption in California’s tomato and almond production systems.

Rosenberg, Sara, Ellen Bruno, Chinh Lam, Bobby Tooyserkani, Hanna Zorlu, Tunyalee Martin, Cameron Pittelkow, Whitney Brim-DeForest. [UC IPM Crop Rotation in Rice Calculator](#).

Wardle, Arthur, and Ellen Bruno. Sustainable Groundwater Management Act Demand Management Action Database: [SGMA-DMAD](#).

OTHER EXTENSION ACTIVITIES

2022 - present	Member, Expert Panel for CDFA's Drought Impact Assessment Platform
2020 - 2021	Member, Ad Hoc Advisory Panel for SWEEP, CA Department of Food & Agriculture
2020 - present	Member, UC ANR Vegetable Crops Program Team
2020 - present	Member, Public Policy Institute of California Water Policy Center Research Network
2020 - present	Member, Union of Concerned Scientists Groundwater Technical Assistance Network
2018 - present	Member, UC ANR Water Program Team
2018 - 2019	Member, Economic Advisory Subcommittee for Flood-MAR Program, California Department of Water Resources

GRANTS

2022	National Science Foundation DISES: "Decentralized Management of Integrated Water Resources: Understanding Cross-scale Decision Feedbacks to Support Coordinated Sustainability" (with J. Herman, Lead PI)
2022	U.S. Environmental Protection Agency STAR: "A Knowledge-to-Implementation Framework for Enhanced Aquifer Recharge" (with M. Kiparsky, Lead PI)
2022	CDFA Specialty Crop Block Grant: "Assessing the Potential of Regenerative Agriculture to Support Soil Health and Carbon Sequestration" (with C. Lazcano, Lead PI)
2021	Foundation for Food & Agriculture Research (FFAR) New Innovator Research Award: "Advancing Water Policy for Agricultural Sustainability"
2021	USDA NIFA Sustainable Agricultural Systems: "Securing a Climate Resilient Water Future for Agriculture and Ecosystems through Innovation in Measurement, Management, and Markets" (with J. Viers, Lead PI)
2020	Giannini Foundation of Agricultural Economics: "Assessing Measurement Error in Remotely Sensed Land Use Data for Economic Applications"
2020	National Science Foundation RAPID: "Compounding Human and Natural Disasters: Implications for the Agricultural Sector" (with D. Zilberman and A. Mishra)
2019	Giannini Foundation of Agricultural Economics: "The Political Economy of Implementing California's Sustainable Groundwater Management Act (SGMA)" (with R. Sexton)
2018	California Institute for Water Resources and U.S. Geological Survey: "Groundwater Regulation and Land Fallowing: How Does Water Scarcity Impact Land Use?"
2018	California Water Resources Control Board (SWRCB): "Life Cycle Cost and Economic Analysis for Water Loss Performance Standards" (with K. Jessoe and F. Loge)
2018	Giannini Foundation of Agricultural Economics: "The Economics of Groundwater Quality in California Agriculture"
2014	National Science Foundation Integrative Graduate Education & Research Traineeship

AWARDS

- 2020 Award for Most Downloaded Article in the 2019-2020 Volume of *ARE Update*
- 2019 Award for Most Downloaded Article in the 2018-2019 Volume of *ARE Update*
- 2019 Outstanding Doctoral Dissertation Award, *Agricultural & Applied Economics Association*
- 2019 Gordon A. King Award for Best Dissertation, ARE Dept, UC Davis
- 2017 Award for Most Downloaded Article in the 2016-2017 Volume of *ARE Update*
- 2017 Outstanding Graduate Paper Award, *Western Agricultural Economics Association*
- 2013 Joel Dean Award for Excellence in Management Science, UC San Diego

INVITED SEMINARS

- 2024:** UC Santa Barbara (scheduled); University of British Columbia (invited); University of San Francisco (invited)
- 2023:** Environmental Defense Fund
- 2022:** UC Davis; University of Nevada, Reno
- 2021:** Pennsylvania State University; University of Arizona
- 2020:** UC Davis; California Polytechnic State University

CONFERENCES AND WORKSHOPS

- 2023:** UCOWR/NIWR Annual Water Resources Conference, Fort Collins, CO; SGMA in 2023: Advancing an Agenda to Meet Emerging Needs, Berkeley, CA; Daugherty Institute's Water for Food Global Conference, Lincoln, NE; Occasional Workshop in Environmental and Resource Economics at UC Santa Barbara; ANR Statewide Conference, Fresno, CA
- 2022:** Symposium on Natural Resource Governance for Young Scholars at Indiana University; GRA Western Groundwater Congress, Sacramento, CA; Property & Environment Research Center Workshop on Groundwater, Bozeman, MT; AAEA Annual Meeting, Anaheim, CA; AERE Summer Conference, Miami, FL; Kern County Water Summit, Bakersfield, CA; NBER Conference on Water Resources, Climate Change, and Agricultural Sustainability; Securing a Climate-Resilient Water Future Conference at UC Merced; UC ANR Water Program Team Meeting
- 2021:** The National Academy of Sciences, Water Science and Technology Board Meeting; Property and Environment Research Center (PERC) Workshop on Water Markets; SWELL (Seminar in Water Economics onLLine); Groundwater Resources Association Future of Water Conference
- 2020:** AGU Conference; AAEA Pre-conference Workshop on Specialty Crop Challenges; UC ANR Pistachio Workgroup Meeting; Groundwater Resources Association 3rd Annual GSA Summit; UC ANR Silver Solutions Seminar; NGO Groundwater Collaborative Workshop; UC ANR Water Program Team Meeting, Davis, CA; Giannini Foundation Big Ag Data Conference, Davis, CA; AERE @ ASSA, San Diego, CA.
- 2019:** AGU Early Career Workshop on Water Cycle in a Warmer World, Plenary Speaker, San Francisco, CA; Flood-MAR Public Forum, Sacramento, CA; Camp Resources XXVI, Asheville, NC; Conjunctive Use of Groundwater and Surface Water Symposium, Davis, CA; State Water Board Public Stakeholder Meeting, Sacramento, CA; Groundwater Resources Association 2nd Annual GSA Summit, Fresno, CA; AERE Summer Conference in Lake Tahoe, CA; NBER Conference on Economics of Research and Innovation in Agriculture, Washington D.C.; UC ANR Agricultural Production Systems Program

Team Meeting, Davis, CA; UC ANR Water Program Team Meeting, Davis, CA; UC-USDA Brown Bag Seminar, Davis, CA.

2018: National Bureau of Economic Research Pre-Conference, Cambridge, MA; The 17th Occasional Workshop in Environmental and Resource Economics, UC Santa Barbara; Agricultural & Applied Economics Association Annual (AAEA) Meeting in Washington, D.C.; Community Water Center, Sacramento, CA; Department of Environmental Science & Policy, University of California, Davis.

2017: Department of Environment, Water, and Natural Resources, Government of South Australia; Australian Agricultural & Resource Economics Society, Southern Australian Branch; Department of Agricultural & Resource Economics, University of Western Australia; Agricultural & Applied Economics Association (AAEA) Annual Meeting in Chicago, IL; Western Agricultural Economics Association Annual Meeting in Lake Tahoe, NV.

JOURNAL REFEREE

Agricultural Economics, American Journal of Agricultural Economics, Applied Economic Perspectives & Policy, Australian Journal of Agricultural and Resource Economics, Environment & Development Economics, Environmental and Resource Economics, European Review of Agricultural Economics, Food Policy, Journal of Agricultural & Applied Economics, Journal of the Agricultural and Applied Economics Association, Journal of Agricultural and Resource Economics, Journal of the Association of Environmental and Resource Economists, Journal of Environmental Economics and Management, Journal of Environmental Management, Journal of Water Resources Planning and Management, Nature Water, PLOS One, Resource and Energy Economics, Scientific Reports, Water Economics and Policy, Water Resources Research

COMMITTEE SERVICE

2022-2023	Co-Chair, ARE CE Specialist Search Committee
2022-2023	Member, CIWR Director Search Committee
2021-2022	Member, ARE Faculty Search Committee
2021-2022	Member, ESPM CE Specialist Search Committee
2021-2022	Co-Chair, UC ANR Agricultural Issues Center Transition Task Force

EDITORIAL SERVICE

09/2018 - present	Co-editor, <i>ARE Update</i>
01/2022 - present	Associate Editor, <i>California Agriculture</i>

OTHER SERVICE

2023	Co-organizer, NBER Conference, Distributional Effects of Climate Change in Agriculture
2023	Ad Hoc Proposal Reviewer, Foundation for Food & Agriculture Research
2022 - 2023	Chair, CE Specialists at UC Berkeley
2022 - 2023	Abstract Reviewer, AAEA Annual Meeting
2021 - 2023	Ad Hoc Reviewer, US-Israel Binational Agricultural Research and Development Fund
2020 - 2023	Co-chair, UC ANR Water Program Team
2020 - 2023	Co-organizer, ARE Leo K. Simon Agricultural & Natural Resource Economics Seminar
2019 - 2023	Abstract Reviewer, AERE Summer Conference
2019	Ad Hoc Proposal Reviewer, Citrus Research Board
2019 - 2021	UC Berkeley Representative, UC ANR Academic Assembly Council
2019 - present	Panel Member, UC ANR Strategic Initiative: Water Quality, Quantity, and Security
2019 - 2020	Selected Paper Topic Leader, AAEA Annual Meeting