

Katherine Y. Zipp

CONTACT INFORMATION

Department of Agricultural Economics, Sociology, and Education
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Last updated November 19, 2019

RESEARCH INTERESTS

Environmental and resource economics, land-use economics, spatial modeling, joint ecological-economic modeling and nonmarket valuation

EMPLOYMENT

Assistant Professor of Environmental and Resource Economics, Department of Agricultural Economics, Sociology, and Education, Pennsylvania State University (July, 2014 - present)

EDUCATION

Ph.D. – University of Wisconsin, Madison, Wisconsin (August 2014)
Agricultural and Applied Economics
• Dissertation Topic: “Spatial analysis of feedback mechanisms between environmental policies, ecosystems and behavior”

BA – Oberlin College, Oberlin, Ohio (May 2008)
Majors: Economics and Environmental Studies
• High Honors in Environmental Studies

TEACHING EXPERIENCE

Undergraduate (Community, Environment, and Development Major, CED)

CED 309: Land Use Dynamics
CED 429: Natural Resource Economics

Graduate (Energy, Environmental, and Food Economics, EEFE, formerly Agricultural, Environmental, and Regional Economics, AEREC)

AEREC 541: Resource and Environmental Economics II
AEREC 597: Research in the Economics of Land Use

REFEREED ACADEMIC JOURNAL ARTICLES

- (Note: * indicates work with a graduate student as part of their research)
1. Rice, W. L.*, Taff, B. D., Miller, Z. D., Newman, P., Zipp, K. Y., Pan, B., Newton, J. N., & DAntonio, A. “Connecting motivations to outcomes: A study of park visitors outcome attainment.” (Accepted for publication in *Journal of Outdoor Recreation and Tourism*).
 2. Zipp, K.Y., L. Zikatanov, Y. Wu, and K. Wu “Optimal management to minimize the damages caused by aquatic invasive species.” Accepted for publication in *Letters in Spatial and Resource Sciences*.
 3. Li, X.* and K.Y. Zipp (2019) “Dynamics and Uncertainty in Land-Use Conversion for Perennial Energy Crop Production: Exploring Effects of Payments for Ecosystem Services Policies” *Agricultural and Resource Economics Review*, 48(2):328-358. <http://dx.doi.org/10.1017/age.2019.3>
 4. Rice, W.L*, B.D. Taff, P.B. Newman, Z.D. Miller, A.L. D’Antonio, J.T. Baker, C. Monz, J.N. Newton, and K.Y. Zipp (2019) “Grand Expectations: Understanding

Visitor Motivations and Outcome Interference in Grand Teton National Park, Wyoming.” *Journal of Park and Recreation Administration* 37(2): 26-44. <https://doi.org/10.18666/JPra-2019-9283>

5. Jiang, W.*, K.Y. Zipp, M. Langholtz, and M. Jacobson (2019) “Modeling Spatial Dependence and Hot Spots in Landowners Willingness to Supply Bioenergy Crops in Northeast of the United States.” *Global Change Biology (GCB) Bioenergy* 11(9):1086-1097. <https://doi.org/10.1111/gcbb.12617>
6. Jiang, W.*, H. Fu, M. G. Jacobson, K. Y. Zipp, and J. Jin (2019) “The Impact of Biomass Crop Assistance Program on the United States Forest Product Market: An Application of Global Forest Product Model” *Forests* 10(3): 215-227. <https://doi.org/10.3390/f10030215>
7. Shr, Y-H* and K.Y. Zipp (2019) “The Aftermath of Flood Zone Remapping: The Asymmetric Impact of Flood Maps on Housing Prices” *Land Economics* 95(2): 174-192. <https://doi.org/10.3368/le.95.2.174>
8. Zipp, K.Y., D. J. Lewis, B. Provencher, and M.J. Vander Zanden (2019) “The Spatial Dynamics of the Economic Impacts of an Aquatic Invasive Species: An Empirical Analysis” *Land Economics* 95(1): 1-18. <https://doi.org/10.3368/le.95.1.1>
9. Jiang, W.*, K.Y. Zipp, and M. Jacobson (2018) “Economic Assessment of Landowners Willingness to Supply Energy Crops on Marginal Lands in the Northeastern of the United States.” *Biomass and Bioenergy* 113: 22-30. <https://doi.org/10.1016/j.biombioe.2018.03.005>
10. Zipp, K.Y., D. J. Lewis, and B. Provencher (2017) “Does the conservation of land reduce development? An econometric-based landscape simulation with land market feedbacks” *Journal of Environmental Economics and Management* 81: 19-37. <https://doi.org/10.1016/j.jeem.2016.08.006>
11. Shortle, J., D. Abler, Z. Kaufman, and K.Y. Zipp (2016) “Simple vs. Complex: Implications of Lags in Pollution Delivery for Efficient Load Allocation and Design of Water-quality Trading Programs” *Agricultural and Resource Economics Review* 45(2):367393. <https://doi.org/10.1017/age.2016.18>

UNDER REVIEW

1. Rice, W.L*, P.B. Newman, B.D. Taff, Z.D. Miller, and K.Y. Zipp “Beyond benefits: Toward a recreational ecosystem services management framework.” (*Resubmitted after revisions*).
2. Li, X.*, K.Y. Zipp, J.S. Shortle, F. Jiang, T.L. Veith, and H.E. Gall. “Integrated Assessment Modeling for Design of Riparian Buffer Systems and Incentives for Adoption.” (*Revise and Resubmit*).
3. Colby, S. and K.Y. Zipp “Excess Vulnerability from Subsidized Flood Insurance: Housing Market Adaptation When Premiums Equal Expected Flood Damage.” (*Under Review*)

WORKING PAPERS

1. Zipp, K.Y. and Y-H. Shr “Feeling the Burn: The Optimal Timing of Prescribed Fires for Recreational Benefits.”
2. Zipp, K.Y. and Jiang, W. “The Net Effects of Open-Space Conservation on Ecosystem Services”.
3. Jiang, W.*, M. Jacobson, A. Kemanian, M. Langholtz, F. Montes, K. Y. Zipp, X. Liang, and J. Jin “A Case Study Defining Economically Marginal Land for Energy Crop Production.”

OTHER PAPERS

Fowler, L.B., R. Baxter, S.J. Colby, M. Kelly, K. Kelly-Slatten, and K. Y. Zipp; L.D. Duke and M. Weitzel. (September 2017) "Flood Mitigation for Pennsylvanias Rural Communities: Community-Scale Impact of Federal Policies Report for the Center for Rural Pennsylvania.
<http://www.rural.palegislature.us/documents/reports/Flood-Mitigation-2017.pdf>

Rice, W. L., Miller, Z., Newman, P. B., Taff, B. D., & Zipp, K. Y. "Recreation Impacts of Road Noise in Death Valley National Park." National Resource Reports. National Park Service.

EXTERNAL GRANTS RECEIVED

1. Co-PI "Implementing High Priority Objectives, Strategies, and Actions Identified in the Pennsylvania Aquatic Invasive Species Management Plan" U.S. Fish and Wildlife Service. 07/01/2020 - 06/30/2022 \$748,456
2. Co-PI "Advancing High Priority, Objectives, Strategies and Actions Identified in the Pennsylvania Aquatic Invasive Species Management Plan" U.S. Fish and Wildlife Service. 06/21/2019 - 06/30/2021 \$797,949
3. Co-PI "Flexible Buffer Systems: Enhancing Ecosystem Services and Expanding Agricultural Options in Riparian Areas." USDA National Institute of Food and Agriculture. 01/01/2017 - 12/31/2019 \$499,500
4. PI "Analysis of Ecosystem service valuation and policy design of water quality improvements associated with perennial grasses and cover crops. USDT Federal Aviation Administration Center of Excellence for Alternative Jet Fuels, ASCENT. 8/1/2016 - 7/31/2017 \$200,000
5. Co-PI "Firescapes in the mid-Atlantic: Mismatches between social perceptions and prescribed fire use." USDI Joint Fire Sciences Program. 08/01/2016 - 07/31/2019 \$326,646
6. Co-PI "Flood Mitigation for Pennsylvania's Rural Communities: Community-Scale Impact of Federal Policies." Center for Rural Pennsylvania. 1/20/2016 - 1/20/2017 \$50,000
7. PI "Analysis of Ecosystem service valuation and policy design of water quality improvements associated with perennial grasses and cover crops. USDT Federal Aviation Administration Center of Excellence for Alternative Jet Fuels, ASCENT. 8/1/2015 - 7/31/2016 \$80,000

INTERNAL GRANTS RECEIVED

1. PI "The Study and Simulation of the Mechanisms Driving Species Migration." Pennsylvania State University Institute for CyberScience Seed Grant. 07/01/2019 - 06/30/2020 \$9,952
2. Co-PI "Pennsylvania Natural Resources Leadership Program Pilot Project AESE Strategic Initiatives Funding. 1/1/2015 - 6/30/2015 \$5,850

GRADUATE ADVISEES

Completed PhD: 1. Yau-Huo Shr (PhD 2017; Assistant Professor at National Taiwan University)

Current PhD: 1. Xiaogu Li (PhD expected 2020) 2. Max Pohlman (PhD, 2019 -)

GRADUATE
COMMITTEES

Completed PhD: 1. Jiachuan Tian (PhD 2016 AEREC), 2. Wonjoo Cho (PhD 2016 AEREC), 3. Wei Jiang (PhD 2017 ESM), 4. Renata Rimsaite (PhD 2017 AEREC), 5. Wenfang Xu (PhD 2018 Mathematics), 6. Yangqingxiang Wu (PhD 2019 Mathematics)

Completed MS: 1. Kyra Sciaudone (MS 2018 ABE), 2. William Rice (MS 2018, RPTM)

Current PhD: 1. Kodzovi Abalo (PhD expected 2020 ECON), 2. Dong Soon Choi (PhD expected 2020 AEREC), 3. William Rice (PhD expected 2021, RPTM), , 4. Grace Wildermuth (PhD 2021 Rural Sociology), 5. Vishnupriya Sankararaman (PhD expected 2022 Ecology)

Current MS: 1. Gregory Mitchell (MS 2020 EEFE), 2. Sadikshya Sharma (MS expected 2020)

UNDERGRADUATE
THESIS ADVISEES

1. Maddy Nyblade (2018, co-advisor Honor's Thesis Geoscience) 2. Gregory Mitchell (2017, co-advisor Honor's Thesis CED)

PENN STATE
SERVICE

Department

- EEFE Graduate Curriculum Committee member (2018-Present)
- CED Undergraduate Committee member (2014-Present)
- Member, AEREC Exam Committee (2017-2018)
- Member, AESE Social Committee (2017-2018)
- Member, Search Committee for an Administrative Support Assistant in AESE (2017)
- Member, Search Committee for an Assistant Professor of Rural Sociology (2015)
- ME John Award Committee member (2015)

College

- Member, Committee for Energy University Renewables (2015)

University

- Co-organizer, Energy and Environmental Economics and Policy (EEEP) weekly Seminar Series (2017-Present)
- Member, Center for Landscape Dynamics Steering Committee (2015 - Present)
- Member, Institute for CyberScience Coordinating Committee
- Member, Committee for the Intercollege Graduate Degree Program in Energy, Environmental, and Food Economics (EEFE) Prospectus (2015-2017)
- Member, Search Committee to hire a Director and Chief Sustainability Officer for the Sustainability Institute (2016)
- Invited member of the Penn State Sustainability Institute Task Force (2015)

EXTERNAL
SERVICE

- Member of the Executive Board of NAREA, 2019-2022
- Guest Academic Editor, *PLOS-ONE*
- Northeastern Agricultural and Resource Economics Association (NAREA) Selected Papers Committee 2017-Present
- Reviewed the USDA Economic Research Services “Major Uses of Land in the United States, 2012
- Reviewed Selected Presentations for the Association of Environmental and Resource Economists (AERE) annual meetings 2017-Present
- Reviewed Selected Presentations for the Northeastern Agricultural and Resource Economics Association (NAREA) annual meetings 2017-Present
- Reviewed Selected Presentations for the Agricultural and Applied Economics Association (AAEA) annual meetings 2015-Present
- Reviewed Selected Presentations for the World Congress of Environmental and Resource Economics annual meetings 2018
- Organizer of a sponsored session at the Northeastern Agricultural and Resource Economics Association (NAREA) annual meetings
- Organizer of a thematic session at the World Congress of Environmental and Resource Economics annual meetings in Gothenburg, Sweden 2018
- Review journal articles for Journal of Association of Environmental and Resource Economists (JAERE), Land Economics, American Journal of Agricultural Economics (AJAE), Agricultural and Resource Economics Review (ARER), Ecological Economics, Journal of Applied Econometrics, PLOS-ONE

INVITED
PRESENTATIONS

International

1. 12th International Conference on “Large-Scale Scientific Computations”, 2019. “A Nonlinear Optimization Algorithm for Modeling the Migration of Invasive Species”
2. Workshop on the Economics of Flooding and Coastal Erosion, London UK. “The Effects of Floodplain Remapping and Increases in Flood Insurance Premiums on Housing Markets.” June 22, 2018

Domestic

3. Environmental and Natural Resource Economics Seminar Series, University of Rhode Island. “Excess Vulnerability from Subsidized Flood Insurance: Housing Market Adaptation When Premiums Equal Expected Flood Damage.” September 13, 2019.
4. Agricultural and Consumer Economics Department Seminar Series, University of Illinois at Urbana-Champaign. “Modeling Spatial Dependence and Economic Hotspots in Landowners Willingness to Supply Bioenergy Crops in the Northeastern United States.” January 25, 2019.
5. Agricultural and Applied Economics Seminar Series, University of Georgia. “Floodplain Housing Stock Dynamics.” November 2, 2018.
6. Applied Economics Seminar Series, University of Delaware. “National Flood Insurance Program and Housing Prices and Supply: A User Cost of Housing Framework.” April 17, 2017
7. Agricultural and Resource Economics Seminar Series, University of Connecticut. “The Social-Ecological Dynamics of Aquatic Species Invasions on a Lake-Rich Landscape.” February 12, 2016

International

1. World Congress of Environmental and Resource Economists, 2018 Thematic Session “How Flood Risk Seeps into Housing Markets”: Floodplain Housing Stock Dynamics
2. NAREA & CAES Joint Annual Meeting & Workshop, 2015 Selected Paper: Social-Ecological Dynamics of Aquatic Species Invasions on a Lake-Rich Landscape
3. NAREA & CAES Joint Annual Meeting & Workshop, 2015 Economics of Water Quality Workshop Program: Lags in Pollution Delivery: Implications for the Design of Water Quality Trading Programs

Domestic

4. Rural Sociological Society Annual Meeting, 2019 Selected Paper: “Assessing Population Change from Marcellus Shale Development in Pennsylvania Using Zillow Housing Data.” (presented by Grace Wildermuth*)
5. AAEA Annual Meeting, 2019 Selected Poster: “Flexible Buffer Systems: Enhancing Ecosystem Services and Expanding Agricultural Options in Riparian Areas.” (presented by Xiaogu Li*)
6. 25th International Symposium on Society and Resource Management, 2019 Selected Poster: “Measuring Population Change Related to Marcellus Shale Development in Pennsylvania: An exploratory analysis using Zillow housing data.” (presented by Kathryn Brasier)
7. AERE Annual Meeting, 2019 Selected Paper: “Optimal spatial-dynamic management to minimize the damages caused by aquatic invasive species.”
8. AERE Annual Meeting, 2019 Selected Paper: “Flexible Buffer Systems: Enhancing Ecosystem Services and Expanding Agricultural Options in Riparian Areas.” (presented by Xiaogu Li*)
9. Social Cost of Water Pollution Workshop, 2019 Selected Paper: “Integrated Assessment Modeling for Design of Riparian Buffer Systems and Incentives for Adoption”
10. W4133 Meeting, 2019. “Feeling the Burn: The Optimal Timing of Prescribed Fires for Recreational Benefits.” (presented by Yau-Huo Shr)
11. AAEA Annual Meeting, 2018 Selected Paper (Lightning Round): Factors Affecting Farmers Adoptions of Flexible Riparian Buffers (presented by Xiaogu Li*)
12. NAREA Annual Meeting & Workshop, 2018 Selected Paper: Optimal spatial-dynamic management policies to minimize the damages caused by aquatic invasive species
13. NAREA Annual Meeting & Workshop, 2018 Selected Paper: Factors Affecting Farmers Adoptions of Flexible Riparian Buffers
14. NAREA Annual Meeting & Workshop, 2017 Selected Paper: Housing Prices and Flood Insurance: The Effect of an Unexpected Increase in Insurance Premiums on Housing Markets (presented by Scott Colby)
15. NAREA Annual Meeting & Workshop, 2017 Selected Paper: Land Use Conversion for Perennial Energy Crops Production: Dynamics and Uncertainty (presented by Xiaogu Li*)
16. AAEA Annual Meeting, 2017 Selected Poster: Land Use Conversion for Perennial Energy Crops Production: Dynamics and Uncertainty (presented by Xiaogu Li*)

17. ASCENT Advisory Committee Meeting, 2017 Presentation: Sustainability Impacts of Biofuels Feedstocks in the Mid-Atlantic
18. Meeting of the International Society of Forest Resource Economics, 2016 Presentation: An Economic Assessment of Land-Use Changes between Food and Bioenergy Crops on Marginal Land (presented by Wei Jiang*)
19. AAEA Annual Meeting, 2016 Selected Paper: Valuing complementarity between environmental goods and housing attributes with the benefit function: An application to flood hazards (presented by Yau-Huo Shr*)
20. NAREA Annual Meeting & Workshop, 2016 Selected Paper: Valuing complementarity between environmental goods and housing attributes with the benefit function: An application to flood hazards (presented by Yau-Huo Shr*)
21. ASCENT Advisory Committee Meeting, 2016 Presentation & Poster: Sustainability Impacts of Biofuels Feedstocks in the Mid-Atlantic
22. AERE Summer Conference in San Diego, CA, 2015 Selected Presentation: Social-Ecological Dynamics of Aquatic Species Invasions on a Lake-Rich Landscape
23. Occasional California Workshop in Environmental and Resource Economics, 2013 Selected paper: Social-Ecological Dynamics of Aquatic Species Invasions on a Lake-Rich Landscape
24. AAEA Annual Meetings in Seattle, WA, 2012 Selected Presentation: Using the benefit function to value non-market goods: An application to open-space conservation
25. AAEA Annual Meetings in Seattle, WA, 2012 Selected Presentation: The effects of open-space conservation on ecosystems: An application of a joint ecological-economic model
26. AERE Summer Conference in Asheville, NC, 2012 Selected Presentation: Using the benefit function to value non-market goods: An application to open-space conservation
27. AERE Summer Conference in Asheville, NC, 2012 Selected Presentation: The effects of open-space conservation on ecosystems: An application of a joint ecological-economic model
28. Heartland Environmental and Resource Economics Workshop at Illinois in Urbana, Champaign, IL, 2011, Long Presentation: Does open space conservation increase neighboring development?
29. CENREP Camp Resources XVIII in Wrightsville Beach, NC, 2011, Research Sketch: Does open space conservation increase neighboring development?
30. AERE Summer Conference in Seattle, WA, 2011, Selected Presentation: Does open space conservation increase neighboring development?
31. AAEA Annual Meetings in Pittsburgh, PA, 2011, Selected Poster Tour: Modeling the effects of open space on private land
32. AAEA Annual Meetings in Pittsburgh, PA, 2011, Selected Poster: Market power and/or cost-efficiencies in ITQ fisheries? (with R.L.O. Cleary and C. Grainger)

Local/Regional

33. Penn State Water Insights seminar "Optimal spatial-dynamic management policies to minimize the damages caused by aquatic invasive species." February 20, 2018 ([link](#))

34. Penn State Energy and Environmental Economics and Policy Seminar. “Feeling the burn: the optimal timing of prescribed fires for recreational benefits.” October 24, 2018
35. Student Organization for Society and Natural Resources Seminar Series. “Feeling the burn: the optimal timing of prescribed fires for recreational benefits.” October 12, 2018
36. Penn State Water Resources Extension webinar “An Economic Assessment of Land-Use Changes between Food and Bioenergy Crops on Marginal Land” (presented by Wei Jiang). July 27, 2016
37. NewBio All-Hands Meeting, 2016 Presentation: An Economic Assessment of Land-Use Changes between Food and Bioenergy Crops on Marginal Land (presented by Wei Jiang*)
38. Penn State Energy Days, 2016 Poster: An Economic Assessment of Land-Use Changes between Food and Bioenergy Crops on Marginal Land (presented by Wei Jiang*)
39. Penn State Energy and Environmental Economics and Policy Seminar, 2016 Presentation: An Economic Assessment of Land-Use Changes between Food and Bioenergy Crops on Marginal Land (presented by Wei Jiang*)
40. Stochastic Modeling and Computational Statistics seminar series, Department of Statistics, Penn State. “The Social-Ecological Dynamics of Aquatic Species Invasions on a Lake-Rich Landscape. October 30, 2015
41. Penn State Energy and Environmental Economics and Policy Seminar. “The Social-Ecological Dynamics of Aquatic Species Invasions on a Lake-Rich Landscape. May 8, 2015

HONORS AND AWARDS

2017 ARER Best Article Award for Shortle, J., D. Abler, Z. Kaufman, and K. Y. Zipp (2016) “Simple vs. Complex: Implications of Lags in Pollution Delivery for Efficient Load Allocation and Design of Water-quality Trading Programs *Agricultural and Resource Economics Review* 45(2): 367-393.

Nominated Participant, 4th Meeting of the Nobel Laureates in Economics, Lindau, Germany, August 2011

AFFILIATIONS

- Agricultural and Applied Economics Association (AAEA)
- Association of Environmental and Resource Economists (AERE)
- Northeastern Agricultural and Resource Economics Association (NAREA) Allied Social Sciences Association (ASSA)
- Career Advancement and Mentorship (CAM) Program mentee in NAREA, 2015
- CeMENT Mentoring mentee in the American Economic Association’s Committee on the Status of Women in the Economics Profession (CSWEP), 2016