

## David J. Lewis

200A Ballard Ext. Hall, Corvallis, OR, 97331; Email: [lewisda@oregonstate.edu](mailto:lewisda@oregonstate.edu); Ph: 541-737-1334

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### **Research Interests:**

Environmental and natural resource economics; land and forest resources; ecosystem services; conservation science; environmental policy instruments; climate change and natural resources; non-market valuation.

### **Professional Experience:**

**Emery N. Castle Chair in Resource and Rural Economics** (2022-present); **Professor** (2016 – present); **Associate Professor** (2013 – 2016), Department of Applied Economics, Oregon State University, Corvallis, OR

**Associate Professor** (2012 – 2013), **Assistant Professor** (2009 – 2012), Department of Economics, University of Puget Sound, Tacoma, WA

**Assistant Professor** (2005 – 2009), Department of Agricultural and Applied Economics, University of Wisconsin, Madison, WI

**Economist** (7/04 – 6/05), U.S. Forest Service, PNW Research Station, Corvallis, OR

**Graduate Research Assistant**, University of Maine, Orono (9/99 – 6/01); Oregon State University, Corvallis, OR (9/01 – 6/05)

**Software Engineer** (10/97 – 3/99), Roadmap Technologies, Stoneham, MA

### **Education:**

#### **PhD– Oregon State University (2005)**

Agricultural and Resource Economics

Dissertation Title: *Managing the Spatial Configuration of Land: The Economics of Land Use Policies for Habitat Fragmentation.*

#### **MS- University of Maine at Orono (2001)**

Resource Economics & Policy

Thesis Title: *Public Conservation Land and Economic Growth in the Northern Forest Region.*

#### **BS- University of Colorado at Boulder (1997)**

College of Engineering and Applied Science

Major: Applied Mathematics                      Minor: Economics

### **Teaching Experience:**

**Natural Resource Economics** (Undergraduate / MS)

**Environmental Economics** (Undergraduate)

**Principles of Economics** (Undergraduate)

**Econometrics** (Undergraduate / PhD)

**Microeconomic Theory** (MS)

**Spatial Modeling in Resource Economics** (PhD)

**Refereed Academic Journal Articles:** (\*based on work from graduate student thesis/dissertation)

Mihiar, C.M.\*, and D.J. Lewis. 2023. "An empirical analysis of U.S. land-use change under multiple climate change scenarios." *Journal of the Agricultural and Applied Economics Association*. 1-15. <https://doi.org/10.1002/jaa2.82>.

Davis, E.C., Sohngen, B., and D.J. Lewis. 2022. "The effect of carbon fertilization on naturally regenerated and planted US forests." *Nature Communications*, 13 (5490): <https://doi.org/10.1038/s41467-022-33196-x>.

Lewis, D.J., Kling, D.M., Dundas, S.J., and D.K. Lew. 2022. "Estimating the value of threatened species abundance dynamics." *Journal of Environmental Economics and Management*, 113: 102639. <https://doi.org/10.1016/j.jeem.2022.102639>

Hashida, Y., and D.J. Lewis. 2022. "Estimating welfare impacts of climate change using discrete-choice models of land management: An application to western U.S. forestry." *Resource and Energy Economics*, 68: 101295. <https://doi.org/10.1016/j.reseneeco.2022.101295>

Bigelow, D.P., Lewis, D.J., and C. Mihiar, C. 2022. "A major shift in U.S. land development avoids significant losses in forest and agricultural land." *Environmental Research Letters*, 17 024007. <https://doi.org/10.1088/1748-9326/ac4537>

Long, D.\*, Lewis, D.J., and C. Langpap. 2021. "Negative traffic externalities and infant health: The role of income heterogeneity and residential sorting." *Environmental and Resource Economics* 80: 637-674, <https://doi.org/10.1007/s10640-021-00601-w>.

Mihiar, C.\*, and D.J. Lewis. 2021. "Climate, adaptation, and the value of forestland: A national Ricardian analysis of the United States." *Land Economics*, 91(4): 911-932. <https://doi.org/10.3368/le.97.4.011620-0004R1>.

Chen, Y., Lewis, D.J., and B. Weber. 2021. "Amenities and skill sorting: A case study of land conservation policy." *The Annals of Regional Science*, 67: 649-669. <https://doi.org/10.1007/s00168-021-01060-3>.

Hashida, Y.\*, Withey, J., Lewis, D.J., Newman, T., and J. Kline. 2020. "Anticipating changes in wildlife habitat induced by private forest owners' adaptation to climate change and carbon policy." *PLOS ONE*, 15(4): e0230525. <https://doi.org/10.1371/journal.pone.0230525>.

Dundas, S.J., and D.J. Lewis. 2020. "Estimating Option Values and Spillover Damages for Coastal Protection: Evidence from Oregon's Planning Goal 18." *Journal of the Association of Environmental and Resource Economists* 7(3): 519-554. <https://doi.org/10.1086/708092>.

Lewis, D.J., Dundas, S.J., Kling, D.M., Lew, D.K., and S.D. Hacker. 2019. "The non-market benefits of early and partial gains in managing threatened salmon." *PLOS ONE* 14(8): e0220260. <https://doi.org/10.1371/journal.pone.0220260>.

Hashida, Y.\*, and D.J. Lewis. 2019. "The Intersection between Climate Adaptation, Mitigation, and Natural Resources: An Empirical Analysis of Forest Management." *Journal of the Association of Environmental and Resource Economists*, 6(5): 893-926. <https://doi.org/10.1086/704517>.

Ralph C. d'Arge and Allen V. Kneese Award for Outstanding Publication in *JAERE* (2019).

Zipp, K.Y.\*, Lewis, D.J., Provencher, B., and 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. (Lead Article). <https://doi.org/10.3368/le.95.1.1>.

- Lewis, D.J., and S. Polasky. 2018. "An Auction Mechanism for the Optimal Provision of Ecosystem Services under Climate Change." *Journal of Environmental Economics and Management*, 92: 20-34. <https://doi.org/10.1016/j.jeem.2018.08.014>.
- Butsic, V., Lewis, D.J., Radeloff, V.C., Baumann, M., and T. Kuehmerle. 2017. "Quasi-Experimental Methods Enable Stronger Inferences from Observational Data in Ecology." *Basic and Applied Ecology*, 19: 1-10. <https://doi.org/10.1016/j.baae.2017.01.005>.
- Bigelow, D.P.\*, Plantinga, A.J., Lewis, D.J., and C. Langpap. 2017. "How Does Urbanization Affect Water Withdrawals? Insights from an Econometric-Based Landscape Simulation." *Land Economics*, 93(3): 413-436. <https://doi.org/10.3368/le.93.3.413>.
- Zipp, K.Y.\*, Lewis, D.J. 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>.
- Chen, Y., Lewis, D.J., and B. Weber. 2016. "Conservation Land Amenities and Regional Economies: A Post-Matching Difference-in-Differences Analysis of the Northwest Forest Plan." *Journal of Regional Science*, 56(3): 373-394. (Lead article) <https://doi.org/10.1111/jors.12253>
- Jones, K.J., and D.J. Lewis. 2015. "Estimating the Counterfactual Impact of Conservation Programs on Land Cover Outcomes: The Role of Matching and Panel Regression Techniques." *PLOS ONE* 10(10): e0141380. <https://doi.org/10.1371/journal.pone.0141380>
- Lewis, D.J., and J. Wu. 2015. "Land-Use Patterns and Spatially Dependent Ecosystem Services: Some Microeconomic Foundations." *International Review of Environmental and Resource Economics*, 8(2): 191-223. <http://dx.doi.org/10.1561/101.00000069>
- Lewis, D.J., Provencher, B., and B. Beardmore. 2015. "Using an Intervention Framework to Value Salient Ecosystem Services in a Stated Preference Experiment." *Ecological Economics*, 114: 141-151. <https://doi.org/10.1016/j.ecolecon.2015.03.025>
- Martinuzzi, S., Radeloff, V.C., Joppa, L.N., Hamilton, C.M., Helmers, D.P., Plantinga, A.J., and D.J. Lewis. 2015. "Scenarios of Future Land Use Change around United States' Protected Areas." *Biological Conservation*, 184: 446-455. <https://doi.org/10.1016/j.biocon.2015.02.015>
- Wendland, K.J.\*, M. Baumann, D.J. Lewis, A. Sieber, V. Radeloff. 2015. "Protected Area Effectiveness in European Russia: A Post-Matching Panel Data Analysis." *Land Economics* 91(1): 149-168. <https://doi.org/10.3368/le.91.1.149>
- Lawler, J., Lewis, D.J., Nelson, E., Plantinga, A.J., Polasky, S., Withey, J., Helmers, D., Martinuzzi, S., and V. Radeloff. 2014. "Projected Land-Use Change Impacts on U.S. Ecosystem Services." *Proceedings of the National Academy of Sciences*, 111(20): 7492-7497. <https://doi.org/10.1073/pnas.1405557111>
- Polasky, S., Lewis, D.J., Plantinga, A.J., and E. Nelson. 2014. "Implementing the Optimal Provision of Ecosystem Services." *Proceedings of the National Academy of Sciences*, 111(17): 6248-6253. <https://doi.org/10.1073/pnas.1404484111>
- Martinuzzi, S., Januchowski-Hartley, S.R., Pracheil, B.M., McIntyre, P.R., Plantinga, A.J., Lewis, D.J., and V.C. Radeloff. 2014. "Threats and Opportunities for Freshwater Conservation under Future Land Use

Change Scenarios in the United States.” *Global Change Biology*, 20: 113-124.  
<https://doi.org/10.1111/gcb.12383>

Wendland, K.\*, Lewis, D.J., and J. Alix-Garcia. 2014. “The Effect of Decentralized Governance on Timber Extraction in European Russia.” *Environmental and Resource Economics*, 57: 19-40.  
<https://doi.org/10.1007/s10640-013-9657-8>

Robinson, B.E.\*, Provencher, B., and D.J. Lewis. 2013. “Managing Wild Resources: Institutional Choice and the Recovery of Resource Rent in Southwest China.” *World Development*, 48: 120-132.  
<https://doi.org/10.1016/j.worlddev.2013.04.004>

Beaudry, F., Radeloff, V.C., Pigeon, A.M., Plantinga, A.J., Lewis, D.J., Helmers, D., and V. Butsic. 2013. “The Loss of Forest Birds Habitat under Different Land Use Policies as Projected by a Coupled Ecological-Econometric Model.” *Biological Conservation*, 165: 1-9. <https://doi.org/10.1016/j.biocon.2013.05.016>

Martinuzzi, S., Radeloff, V.C., Higgins, J.V., Helmers, D.P., Plantinga, A.J. and D.J. Lewis. 2013. “Key Areas for Conserving United States’ Biodiversity Likely Threatened by Future Land Use Change.” *Ecosphere*, 4(5): 1-13. <https://doi.org/10.1890/ES12-00376.1>

Hamilton, C.M., Martinuzzi, S., Heglund, P.J., Lewis, D.J., Plantinga, A.J., Thogmartin, W.E., Radeloff, V.C., and A.M. Pidgeon. 2013. “Current and Future Land Use around a Nationwide Protected Area Network.” *PLOS ONE*, 8(1): 1-12. <https://doi.org/10.1371/journal.pone.0055737>

Butsic, V.\*, Lewis, D.J., and V. Radeloff. 2013. “Reserve Selection with Land Market Feedbacks.” *Journal of Environmental Management*, 114: 276-284. <https://doi.org/10.1016/j.jenvman.2012.10.018>

Provencher, B., Lewis, D.J., and K. Anderson. 2012. “Disentangling Preferences and Expectations in Stated Preference Analysis with Respondent Uncertainty: The Case of Invasive Species Prevention.” *Journal of Environmental Economics and Management*, 64(2): 169-182. <https://doi.org/10.1016/j.jeem.2012.04.002>

Radeloff, V.C., Nelson, E., Plantinga, A.J., Lewis, D.J., Helmers, D., Lawler, J.J., Withey, J.C., Beaudry, F., Martinuzzi, S., Butsic, V., Lonsdorf, E., White, D., and S. Polasky. 2012. “Economic-Based Projections of Future Land-Use under Alternative Economic Policy Scenarios in the Conterminous U.S.” *Ecological Applications*, 22(3): 1036-1049. <https://doi.org/10.1890/11-0306.1>

Wendland, K.\*, Lewis, D.J., Alix-Garcia, J., Ozdogan, M., Baumann, M., and V. Radeloff. 2011. “Regional- and District-Level Drivers of Timber Harvesting in European Russia after the Collapse of the Soviet Union.” *Global Environmental Change*, 21: 1290-1300.  
<https://doi.org/10.1016/j.gloenvcha.2011.07.003>

Butsic, V.\*, Lewis, D.J., and L. Ludwig\*. 2011. “An Econometric Analysis of Land Development with Endogenous Zoning.” *Land Economics*, 87(3): 412-432. <https://doi.org/10.3368/le.87.3.412>

Lewis, D.J., Plantinga, A.J., Nelson, E., and S. Polasky. 2011. “The Efficiency of Voluntary Incentive Policies for Preventing Biodiversity Loss.” *Resource and Energy Economics*, 33(1): 192-211.  
<https://doi.org/10.1016/j.reseneeco.2010.04.012>

Lewis, D.J., Barham, B.L., and B. Robinson\*. 2011. “Are there Spatial Spillovers in the Adoption of Clean Technology? The Case of Organic Dairy Farming.” *Land Economics*, 87(2): 250-267.  
<https://doi.org/10.3368/le.87.2.250>

Butsic, V.\*, Lewis, D.J., and V.C. Radeloff. 2010. "Lakeshore Zoning has Heterogeneous Ecological Effects: An Application of a Coupled Economic-Ecological Model." *Ecological Applications*, 20(3):867-879. <https://doi.org/10.1890/09-0722.1>

Lewis, D.J. 2010. "An Economic Framework for Forecasting Land Use and Ecosystem Change." *Resource and Energy Economics*, 32(2): 98-116. <https://doi.org/10.1016/j.reseneeco.2009.11.007>

Lewis, D.J., Plantinga, A.J., and J. Wu. 2009. "Targeting Incentives to Reduce Habitat Fragmentation." *American Journal of Agricultural Economics*, 91(4): 1080-1096. <https://doi.org/10.1111/j.1467-8276.2009.01310.x>

Horsch, E.J.\*, and D.J. Lewis. 2009. "The Effects of Aquatic Invasive Species on Property Values: Evidence from a Quasi Experiment." *Land Economics*, 85(3): 391-409. (Lead article) <https://doi.org/10.3368/le.85.3.391>

Lewis, D.J., Provencher, B., and V. Butsic\*. 2009. "The Dynamic Effects of Open-Space Conservation Policies on Residential Development Density." *Journal of Environmental Economics and Management* 57(3): 239-252. (Lead article) <https://doi.org/10.1016/j.jeem.2008.11.001>

Lewis, D.J., Barham, B.L., and K. Zimmerer. 2008. "Spatial Externalities in Agriculture: Empirical Analysis, Statistical Identification, and Policy Implications." *World Development*, 36(10): 1813-1829. <https://doi.org/10.1016/j.worlddev.2007.10.017>

Nelson, E., Polasky, S., Lewis, D.J., Plantinga, A.J., Lonsdorf, E., White, D., Bael, D., and J. Lawler. 2008. "Efficiency of Incentives to Jointly Increase Carbon Sequestration and Species Conservation on a Landscape." *Proceedings of the National Academy of Sciences*, 105(28): 9471-9476. <https://doi.org/10.1073/pnas.0706178105>

Lewis, D.J., and A.J. Plantinga. 2007. "Policies for Habitat Fragmentation: Combining Econometrics with GIS-Based Landscape Simulations." *Land Economics*, 83(2): 109-127. (Lead article) <https://doi.org/10.3368/le.83.2.109>

Alig, R.J., D.J. Lewis, and J.J. Swenson. 2005. "Is Forest Fragmentation Driven by the Spatial Configuration of Land Quality? The Case of Western Oregon." *Forest Ecology and Management*, 217: 266-274. <https://doi.org/10.1016/j.foreco.2005.06.007>

Lewis, D.J., G.L. Hunt, and A.J. Plantinga. 2003. "Does Public Lands Policy Affect Local Wage Growth?" *Growth and Change*, 34(1): 64-86. <https://doi.org/10.1111/1468-2257.00199>

Lewis, D.J., G.L. Hunt, and A.J. Plantinga. 2002. "Public Conservation Land and Employment Growth in the Northern Forest Region." *Land Economics*, 78(2): 245-259. <https://doi.org/10.2307/3147271>

### **Working Papers / Under Review:**

Wang, Y., and D.J. Lewis. 2023. "Wildfire and climate change have lowered the economic value of western US forests by altering risk expectations." Working Paper. (3<sup>rd</sup> round)

Johnson, K., and D.J. Lewis. 2023. "Weather variability slows adaptation: An empirical analysis of forestry." Working Paper. (2<sup>nd</sup> round)

Zhao, Z., Langpap, C., and D.J. Lewis. 2023. "Examining the effectiveness of non-profit groups' expenditures on species recovery: The case of Pacific salmon and steelhead." Working Paper. (1<sup>st</sup> round)

Johnson, K., and D.J. Lewis. 2022. "Estimating the economic benefits of conservation policies for threatened species: A case study of riparian buffer rules and salmon." Working Paper.

Hashida, Y., Lewis, D.J., and K. Cummins. 2023. "Prescribed fires as a climate adaptation tool." Working Paper.

Zhao, Z., and D.J. Lewis. 2022. "Conversions of natural forests to plantations induced by wood pellet expansion." Work in progress.

### **Peer-Reviewed Book Chapters, Research, Synthesis, and Policy Reports:**

Riitters, Kurt; Coulston, John W.; Mihlar, Christopher; Brooks, Evan B.; Greenfield, Eric J.; Nelson, Mark D.; Domke, Grant M.; Mockrin, Miranda H.; Lewis, David J.; Nowak, David J. 2023. Land Resources. In: U.S. Department of Agriculture, Forest Service. 2023. Future of America's Forest and Rangelands: Forest Service 2020 Resources Planning Act Assessment. Gen. Tech. Rep. WO-102. Washington, DC: 4-1-4-37. Chapter 4. <https://doi.org/10.2737/WO-GTR-102-Chap4>.

Lewis, D.J., and R.J. Alig. 2014. "A Spatial Econometric Analysis of Land-Use Change with Land Cover Trends Data: An Application to the Pacific Northwest." Research Paper PNW-RP-600, Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 44p.

Lewis, D.J., and E. Nelson. 2014. "The Economics of Wildlife Conservation." Chapter 7 in the *Oxford Handbook of Land Economics*, Oxford University Press, New York.

Plantinga, A.J., and D.J. Lewis. 2014. "Landscape Simulations with Econometric-Based Land-Use Models." Chapter 15 in the *Oxford Handbook of Land Economics*, Oxford University Press, New York.

Rashford, B.S., Albeke, S.E., and D.J. Lewis. 2013. "Modeling Grassland Conversion: Challenges of Using Satellite Imagery Data." *American Journal of Agricultural Economics* (Papers and Proceedings Issue), 95(2): 401-411.

Lewis, D.J., and R.J. Alig. 2009. "Empirical Methods for Modeling Landscape Change, Ecosystem Services, and Biodiversity." *Western Economic Forum*, 8(1): 29-39.

Smail, R.A., and D.J. Lewis. 2009. "Forestland Conversion, Ecosystem Services, and Economic Issues for Policy: A Review." U.S. Forest Service General Technical Review, PNW-GTR-797.

Plantinga, A.J., Alig, R.J., Eichman, H., and D.J. Lewis. 2007. "Linking Land-Use Projections and Forest Fragmentation Analysis." Res. Pap. PNW-RP-570. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Station, 41p.

Lewis, D.J., and A.J. Plantinga. 2004. "Research Methods to Address the Economics of Forest Habitat Fragmentation." U.S. Forest Service General Technical Review, PNW-GTR-626.

Rashford, B.S., D.J. Lewis, R.M. Evonuk, and B.A. Weber. 2003. "Economic Interrelationships in a Small Farming Area: Towards an Estimate of the Threshold of Agricultural Production for Sustainable Farming." Working Paper #03-101, January 2003, Department of Agricultural and Resource Economics, Oregon State University.

Lewis, D.J. 2001. "Easements and Conservation Policy in the North Maine Woods." *Maine Policy Review*, 10(1): 24-36.

Lewis, D., and A.J. Plantinga. 2001. "Public Conservation Land and Economic Growth in the Northern Forest Region." Maine Agricultural & Forest Experiment Station Misc. Pub #748.

### **Published Database**

Mihiar, C.M.; Lewis, D.J.; Coulston, J.W. 2023. County-level land-use projections for the conterminous United States, 2020-2070, used in the 2020 RPA Assessment. Fort Collins, CO: Forest Service Research Data Archive. <https://doi.org/10.2737/RDS-2023-0026>

### **Miscellaneous Papers and Outreach Materials:**

Hashida, Y., Lewis, D.J., and J.D. Kline. 2020. "Anticipating interactions between forest management and wildfire as private forestland owners adapt to climate change." P. 278-282. In: Hood, Sharon; Drury, Stacy; Steelman, Toddi; Steffens, Ron, tech. eds. The fire continuum—preparing for the future of wildland fire: Proceedings of the Fire Continuum Conference. 21-24 May 2018, Missoula, MT. Proc. RMRS-P-78. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 358 p. <https://www.fs.usda.gov/treearch/pubs/60581>

Lewis, D.J., and K. Anderson. 2009. "Eurasian watermilfoil depresses shoreline property values: Evidence from Vilas County." *The Lake Connection* (May).

Lewis, D.J. 2009. "Open-Space Issues at the Rural-Urban Fringe: A Discussion." *American Journal of Agricultural Economics* Proceedings Issue, 91(5): 1326-1327.

Lewis, D.J. 2008. Book review of "Economics and Contemporary Land Use Policy: Development and Conservation at the Rural-Urban Fringe." R.J. Johnston and S.K. Swallow (Eds). *Agricultural History*, 82(2): 416-417.

### **Research Papers Converted to Outreach Material**

2023. The Natural Inquirer's Woodsy Owl science magazine for middle school students converted Hashida, Withey, Lewis, Newman, and Kline (2020 PLOS One) into a science lesson for middle school students. Published in [Issue 22](#) and titled "Which Wood You Choose? Forest Landowners' Selection of Trees for Planting Forests Can Have Different Outcomes."

### **Awards:**

- Emery N. Castle Chair in Resource and Rural Economics, Oregon State University (2022-present).
- Ralph C. d'Arge and Allen V. Kneese Award for Outstanding Publication in the *Journal of the Association of Environmental and Resource Economists* (2019). Shared with Yukiko Hashida (OSU alum from 2017).
- Savery Outstanding Young Faculty Award (2016), College of Agricultural Sciences, Oregon State University.
- Taylor-Hibbard Award for Outstanding Contribution to the Graduate Program, Agricultural and Applied Economics, UW-Madison (2007).
- D. Barton DeLoach Graduate Fellowship (Acad. Yr. 2004-05).
- Emery Castle Graduate Scholarship (Acad. Yr. 2003-04)
- University of Maine Graduate Fellowship (Acad. Yr. 2000-01)
- Gloria Barron Wilderness Society Scholarship (Acad. Yr. 2000-01)

### **Graduate Advisees (Oregon State University):**

Current: Nazrina Haque (PhD); Cade White (PhD).

PhD graduates: Yukiko Hashida (PhD 2017); Chris Mihiar (PhD 2018); Dede Long (PhD co-advisor 2018); Cassie Finer (PhD 2019); Kelsey Johnson (PhD 2022); Zichu Zhao (PhD co-advisor 2023); Yuhan Wang (PhD 2023).

MS graduates: Tiffany Smith (MS 2014); Nicole Kovski (MS 2015); Lima Hossain (MS 2020); Nozomi Kato (MS 2020); Grant Zimmerman (MS 2020); Rachel Pearce-Smith (MS 2022).

### **Graduate Committees (Oregon State University):**

Dan Bigelow (PhD 2015); Chris Lauer (PhD 2017); Michael Weinerman (PhD 2020); Winston Oakley (MS 2014); Annah Latane (MS 2014); Xiaoou Han (MS 2015); Sam Robison (MS 2015); Jacob Davis (MS 2015); Jehan Jabareen (MS 2017); Tu Nguyen (PhD 2020); Jason Beasley (PhD 2019); Jaeho Jung (PhD 2020); Sultana Fouzia (PhD 2021); Alex Natanson (PhD 2022); Mark St. John (MS); Charles Thompson (MS 2020; PhD); Aaron Kratzer (MS 2020); Ashley Lowe (PhD); Amila Hadziomerspahic (PhD 2022); Thamana Vasan (PhD); Russel Dame (PhD); Emma Gjerdsseth (PhD); Devin Mounts (MS); Graham Shaw (MS MRM 2021); Richard Acquah-Sarpong (PhD); Yuhan Hu (PhD); Roberto Toto (PhD).

### **Undergraduate Thesis Advisees (Oregon State University):**

Zoe Johnson (2016 Honor's Thesis)

### **Undergraduate Econometrics Research Advisees (Oregon State University – AEC 401):**

Spring 2020 (4); Spring 2021 (5)

### **Graduate Council Representative (Oregon State):**

Caitlin Magel (Integrative Biology 2020); David Tree (Business 2019); Chen Chen (Civil Engineering 2021); Kevin Credo (Department of Forest Engineering, Resources, and Management 2019); Meridith McClure (Forest Ecosystems and Society 2021); Sciong Zhang (Business 2023).

### **Graduate Advisees (University of Wisconsin Department of Agric. and Applied Econ (AAE)):**

Van Butsic (M.S. 2007 – awarded best thesis in AAE department); Lindsay Lugwig (M.S. 2008); Eric Horsch (M.S. 2008 – awarded best thesis in AAE department); Kelly Wendland (M.A. 2009); Steven Chambers (M.S. 2010 – awarded best thesis in AAE department; awarded best MS thesis by the National Agricultural and Applied Economics Association)

### **Graduate Committees (University of Wisconsin):**

Van Butsic (PhD Forestry 2011); Brian Robinson (PhD Environment and Resources 2011); Kelly Wendland (PhD Forestry 2011); Kate Zipp (PhD AAE 2014); Rebecca Moore (PhD AAE 2006); Michael Papenfus (PhD Environment and Resources 2010)

### **External Presentations (Conferences & Invited):**

Estimating the value of threatened species abundance dynamics

- NOAA Workshop on Economic Research for Management of West Coast Salmon and Steelhead, Portland, OR June 15, 2022

The non-market benefits of early and partial gains in managing threatened salmon



- Oregon Chapter of the American Fisheries Society Annual Meeting, Bend, OR. March 4, 2020.
- Oregon Resource and Environmental Economics Workshop. Willamette University, Salem, OR. May 10, 2019.

Climate, adaptation, and the value of forestland: A national Ricardian analysis of the U.S.

- Department of Forest and Wildlife Ecology, University of Wisconsin-Madison, November 9, 2018. (Invited)

Public preferences for natural capital investments that help threatened species: The case of Oregon Coast Coho salmon

- AAEA Annual Conference, Washington DC, August, 2018.

The intersection between climate adaptation, mitigation, and natural resources: An empirical analysis of forest management

- Department of Environmental Science, Policy, and Management, University of California, Berkeley, February 22, 2018. (Invited)

Conservation land can draw high-skill migrants to neighboring communities

- AAEA Annual Conference (AERE sessions), Chicago, IL, August 2017.

Implementing the Optimal Provision of Ecosystem Services under Climate Change

- WEAI Annual Conference (AERE sessions), Portland, OR, July 2016.
- Department of Agricultural Economics, Penn State, March 2, 2016. (Invited)
- AERE Summer Conference, San Diego, CA, June 2015.

Does the Conservation of Land Provide a Net Habitat Gain in the Presence of Land Market Feedbacks?

- Land Use and Ecosystem Services Workshop, UC Santa Barbara, May, 2014. (Invited)

Projected Land-Use Change Impacts on U.S. Ecosystem Services

- OSU Department of Integrated Biology Seminar Series, March, 2014. (Invited)

Using an Intervention Framework to Value Salient Ecosystem Services in a Stated Preference Experiment

- W3133 Multi-State Project Annual Meeting, Orange Beach, AL. February, 2014.

Protected Areas and Land-Use Change: Evidence from Two Panel Analyses in the U.S. and Russia.

- Oregon Resource and Environmental Economists Biannual Meeting, Salem, OR. October 2013.

Optimal Conservation with Spatially-Dependent Benefits and Asymmetric Information.

- Department of Agricultural and Resource Economics, Oregon State U. November 2012.
- *AERE Summer Conference 2011*, Seattle, WA, June, 2011.

Empirical Economic Modeling of Land Conservation Programs and Ecosystem Services.

- International Forum of Ecosystem Adaptability Science III, Tohoku University, Sendai, Japan, November, 2011. (Invited)

Are there Spatial Spillovers in the Adoption of Clean Technology? The Case of Organic Dairy Farming.

- *World Congress of Environmental and Resource Economists*, Montreal, Canada, June, 2010.

The Efficiency of Voluntary Incentive Policies for Preventing Biodiversity Loss.

- *AERE sessions, Allied Social Sciences Association Annual Meeting*, San Francisco, CA, January 2009.

- *Triangle Resource and Environmental Economics Workshop, NC State/Duke/RTI, Raleigh, NC. November 2008. (Invited)*
- *Western Agricultural Economics Association Annual Meeting, Big Sky, MT. June, 2008.*

An Economic Framework for Forecasting Land Use and Ecosystem Change.

- *Workshop on Spatial Environmental Economics, Centennial, WY, September, 2008. (Invited).*

The Dynamic Effects of Open-Space Conservation Policies on Residential Development Density.

- *Department of Applied Economics, University of Minnesota. November 2007. (Invited)*
- *Heartland Environmental and Resource Economics Workshop, Ames, IA, September, 2007. (Best presentation award as voted by conference participants).*
- *AERE sessions, American Agricultural Economics Association Annual Meeting, Portland, OR, July, 2007.*

Targeting Incentives to Reduce Habitat Fragmentation.

- *School of Public Policy, University of Maryland. February, 2007. (Invited)*
- *Camp Resources, Wilmington, NC. August 2006.*
- *Department of Applied Economics, University of Minnesota. March, 2006. (Invited).*
- *AERE sessions, Allied Social Science Association Annual Meeting, Boston, MA, January, 2006.*
- *American Agricultural Economics Association Annual Meeting, Providence, RI, July, 2005.*

Economic Modeling for Landscape Conservation. *68<sup>th</sup> Midwest Fish & Wildlife Conference, Madison, WI. December, 2007.*

Using Voluntary Incentives to Conserve Biodiversity. *Designing Pro-Poor Rewards for Ecosystem Services, Land Tenure Center Spring Forum, Madison, WI. April 2008.*

The Implications of Heterogeneous Preferences for Environmental Zoning.

- *Department of Agricultural and Consumer Economics, University of Illinois, December, 2006. (Invited).*
- *AERE sessions, American Agricultural Economics Association Annual Meeting, Long Beach, CA, July, 2006.*
- *BishopFest: A Seminar in Honor of Richard C. Bishop. Madison, WI. March, 2006.*

Policies for Forest Fragmentation: Combining Econometric Models with GIS-Based Landscape Simulations.

- *American Agricultural Economics Association Annual Meeting, Denver, CO, August, 2004.*
- *Western Forest Economists Meeting, Welches, OR, May, 2004.*

Land Use and Habitat Fragmentation: Economic Causes and Ecological Consequences, *Overcoming Barriers to Sustainable Forestry: Critical Issues, Current Findings and Ongoing Research in the Pacific Northwest, Portland, OR, November, 2003.*

Land Conservation and Economic Growth in the Northern Forest, *Land Conservation Summit 2000, Minneapolis, MN, July, 2000.*

### **Affiliations:**

Association of Environmental and Resource Economists  
 Agricultural and Applied Economics Association  
 Western Agricultural Economics Association

## **External Service:**

Editor of Environmental Economics Section – *Q Open: A Journal of Agricultural, Climate, Environmental, Food, Resource, and Rural Development Economics*. Oxford University Press. (2020 – present)

Editorial Council – *Land Economics* (2021 – present)

Editorial Council – *Journal of the Association of Environmental and Resource Economists* (2014 – present)

Editorial Council – *Journal of Environmental Economics and Management* (2012 – 2020)

Journal Reviewer, *Land Economics* (19); *Journal of Environmental Economics and Management* (22); *Journal of the Association of Environmental and Resource Economists* (10); *American Journal of Agricultural Economics* (14); *Environmental and Resource Economics* (9); *Resource and Energy Economics* (5); *Proceedings of the National Academy of Sciences* (3); *Ecological Economics* (10); *Land Use Policy* (7); *Journal of Economic Geography* (2); *Journal of Environmental Management* (1); *Journal of Economic Methodology* (1); *Journal of Agricultural and Resource Economics* (2); *Journal of Soil and Water Conservation* (1); *Agricultural and Resource Economics Review* (3); *Environmental Management* (2); *World Development* (3); *Australian Journal of Agricultural and Resource Economics* (1); *Review of Regional Studies* (1); *Contemporary Economic Policy* (1); *Canadian Journal of Agricultural Economics* (1), *Natural Resources Modeling* (1), *Growth and Change* (2), *Conservation Letters* (2), *Ecological Applications* (1), *Conservation Biology* (4), *Biological Conservation* (2), *Canadian Journal of Regional Science* (1), *Frontiers in Ecology and Evolution* (1), *Forest Policy and Economics* (3), *European Review of Agricultural Economics* (1), *PLOS One* (2), *Water Economics and Policy* (1), *International Review of Environmental and Resource Economics* (1), *Environmental Research Letters* (3), *Nature Communications* (1), *Scientific Reports* (1), *Ecology and Society* (1), *Marine Resource Economics* (1).

External reviewer for faculty tenure and/or promotion at other universities (10).

Reviewer of Presentation Submissions – Association of Environmental and Resource Economists Annual Summer Conference,

- Lake Tahoe, NV, May 2019.
- Pittsburgh, PA, May 31-June 2 2017.
- Breckenridge, CO, June 9-10 2016.

Reviewer of Presentation Submissions – Association of Agricultural and Applied Economics Annual Meeting, Boston, MA, July 2016.

Review Panel for Proposals submitted to the Dynamics of Coupled Natural Human Systems Program with the National Science Foundation, Arlington, VA, March 2015.

Program Committee – Association of Environmental and Resource Economists Annual Summer Conference, San Diego, CA, June 3-5 2015.

Reviewer of Presentation Submissions – Association of Agricultural and Applied Economics & Western Applied Economics Association Annual Meeting, San Francisco, CA, July 26-28, 2015.

Panelist – Needs and Requirements for Land-Change Modeling, Panel Convened by The National Academies, Chapel Hill, NC, February 2012.

Topic Leader – Natural Resource Economics Section for *American Agricultural Economics Association* Annual Meeting, 2007, 2008.

## **Oregon State Service:**

### *Department*

- Co-chair, Applied Economics Undergraduate Committee (2018 – present)
- Undergraduate Experiential Learning Coordinator for Environmental Economics and Policy Major (2016 – present)
- Organizer of Bi-Weekly Applied Economics / Environmental and Resource Economics Working Group (2014 – 2018)
- Applied Economics Graduate Committee (2013 – 2018)
- Applied Economics Graduate Admissions Committee (2015 – 2018)
- Applied Economics PhD preliminary examination committee (2013 – present)
- Applied Economics Promotion & Tenure Committee (2016 – present)

### *College*

- College of Agricultural Sciences Savery Award for Outstanding Young Faculty Committee (2022-23)
- College of Agricultural Sciences R.M. Wade Award for Excellence in Teaching Committee (2020)
- College of Agricultural Sciences Curriculum and Assessment Committee (2016 - 2018)
- College of Agricultural Sciences Faculty & Staff Award Nomination Committee (2015, 2017)

### *University*

- Faculty Planning Committee for new management plan for McDonald-Dunn Research Forests in College of Forestry (2022-2023).
- Search advocate for economist position in Dept. of Forest Ecosystems and Society (2021-2022).
- Faculty mentor in OSU's Faculty-Student Mentor Program (2018-2022).
- Search committee for forest economist position in Dept. of Forest Engineering, Resources, and Management (2014 – 2015)
- Classroom Improvement Workgroup – University level (2015 – present)
- University review of OSU Institutional Review Board (2016)

## **Other Public Service and Outreach:**

- Interview on land conservation economics with documentary filmmaker for Mouse Hole Films (<https://www.mouseholefilms.co.uk/>), for a film about conservation and the spread of zoonotic diseases. July 2020.
- Presentation to Oregon Board of Forestry on "Ecosystem services valuing (part II): A framework for including ecosystem services in decision-making, and an example", June 5, 2019. Salem, OR.
- Presentation to Oregon Board of Forestry on "Ecosystem services and economics", November 7, 2018. Salem, OR.
- Presentation to Oregon Chapter of American Society of Farm Managers and Rural Appraisers on Climate change and forestland values, September 12, 2018. Corvallis, OR.
- Presentation on climate economics to members of Oregon legislature, as part of "Carbon 101" workshop organized by Oregon Climate Change Research Institute. September 5, 2018.
- Presentation to Oregon Council for Social Studies, Fall 2017 Conference in Monmouth, OR. "Why price pollution? A classroom experiment". 10/7/17.
- Peer review panel for MetroScope regional land-use model for Portland Metropolitan area, Portland, OR, 10/2/17.

## **Other Professional Development**

Hybrid Course Learning Community, Oregon State University Center for Teaching and Learning, Fall 2017.

### **Grants Received at Wisconsin and Puget Sound:**

“Designing Effective Policies to Manage the Spatial Configuration of Private Forest Land.” USDA-Hatch, 1/1/06 – 12/31/07. \$53,662.

“Designing Policies to Manage the Spatial Configuration of Private Land.” Wisconsin Alumni Research Foundation. 7/1/06 – 6/31/07. \$19,141.

“Identifying Economically-Relevant Spatial Externalities Between Organic and Conventional Agriculture.” Wisconsin Alumni Research Foundation. 7/1/07 – 6/31/08. \$43,468.

“Shoreline Development Policies, Land Conversion, and Forest Fragmentation in Northern Wisconsin.” USDA-McIntire-Stennis, 10/1/07-9/30/09. \$67,806. (w/ V. Radeloff).

“Agents of Change in Agriculture and the Environment: Land-User Interactions and Spatial Externalities in Organic Farming (Upper Midwest, USA) and Agrobiodiversity Production (Bolivia).” National Science Foundation. 5/1/08-4/30/11. \$713,839. (w/ K. Zimmerer (lead PI), B. Barham, A. Burnicki, and J. Burt).

“Conserving Forest Cover and Ecosystem Services.” USDA – Forest Service (cooperative agreement). 9/6/07 – 9/30/08. \$31,114.

“An Economic Spatial-Dynamic Model of Great Lakes Coastal Development.” University of Wisconsin Sea Grant, 2/1/09 – 1/31/11. \$349,373 (w/ B. Provencher (lead PI) and V. Radeloff).

“Land Use and Land Cover Changes in Temperate Forests of European Russia: The Past, The Current, and The Future.” NASA Land Use/Land Cover Change Program. 7/1/08-6/30/11. \$650,000. (w/ M. Ozdogan (lead PI) and V. Radeloff).

“Collaborative Research: Integrated Dynamic Modeling of Ecosystem Services – Incentive-Based Policies, Land-Use Decisions, and Ecological Outcomes.” National Science Foundation, \$1,200,000. (D.J. Lewis lead PI for Wisconsin; collaborating PIs Polasky, S., Karieva, P., Lawler, J., Lonsdorf, E., Plantinga, A., Radeloff, V., and D. White).

“A National-Scale Spatial Econometric Model of Land-Use Change.” USDA- Forest Service (Joint Venture Agreement). 10/1/09 – 9/30/13. \$30,000.

“Targeting grassland conservation: An estimate of land-use conversion risk in the northern Great Plains.” U.S. Department of Interior, Fish and Wildlife Service, sub-contract with University of Wyoming. 4/1/12 – 9/30/13. \$24,971.

### **Grants Received at Oregon State:**

“Social-Ecological Dynamics of Aquatic Species Invasions on a Lake-Rich Landscape.” National Science Foundation, sub-contract with University of Wisconsin. 7/1/13-7/31/14. \$51,408. (Lewis is an original co-PI for this \$1.5m grant to Wisconsin).

“Analysis of Private Timber Harvesting in NWFP Region using Remotely-Sensed Data.” USDA Forest Service Pacific Northwest Research Station Joint Venture Agreement. \$98,406. 10/1/14 – 9/30/18.

“Has the 2007-2009 Recession Changed the Relationship between SNAP and Employment?” USDA Economic Research Service Cooperative Agreement. \$100,000. 9/1/14 – 8/31/16. (with Bruce Weber and Mark Edwards).

“A Multi-Disciplinary, Integrative Approach to Valuing Ecosystem Services from Natural Infrastructure.” NOAA National Ocean Service National Centers for Coastal Ocean Science. 10/1/15 – 9/30/18. \$1,350,000 (with S. Dundas, D. Kling, D. Cox, P. Ruggiero, C. Parrish, and S. Hacker).

“Adaptation to climate change in forestry – An empirical analysis of harvest and replanting decisions under climate change in the western U.S.” \$94,991. USDA NIFA Pre-Doctoral fellowship for Y. Hashida – primary mentor: D.J. Lewis. 9/1/16 - 8/31/18.

“Dike removal and salt marsh restoration for fish habitat: Estimating the effects on coastal land markets.” \$72,448. NOAA-Fisheries Sea Grant Marine Resource Economics Fellowship for C. Finer – primary mentor: D.J. Lewis. 9/1/16 - 8/31/18.

“Adaptation to Climate Change in Forestry – A Plot-Level Econometric Analysis of Forest Management in the Conterminous United States.” USDA NIFA Foundational Program. \$500,000. (with B. Sohngen). 6/15/17 - 6/14/20.

“RPA Land-Use Modeling.” USDA Forest Service Southern Research Station Joint Venture Agreement: \$457,459. 3/1/18 – 2/28/23. Forest Service Agreement No. 18-JV-11330155-023.

“How do urbanization and other large-scale drivers affect timber and farmland markets? A parcel-level national econometric analysis” USDA NIFA Foundational Program. \$500,000. 3/1/21 – 2/28/24. (with D. Bigelow as lead). OSU share = \$246,500.

“Are timberland markets forward looking with respect to climate change?” USDA Forest Service Southern Research Station Joint Venture Agreement. \$128,519. 3/1/2023-2/28/2028. (with D. Bigelow).

“Empirical evidence of wildfire impacts on management of western private timberland with implications for carbon storage and sequestration.” USDA Forest Service Southern Research Station Joint Venture Agreement. \$166,559. 9/1/2023-8/31/2028.

### **Denied Grant Proposals while at Oregon State:**

“CNH-L: Re-Coupling a Natural-Human System by Internalizing Externalities: Optimal Landscape Conservation under Climate Change.” \$1,800,000. National Science Foundation Coupled Natural-Human Systems Program. D.J. Lewis lead PI; co-PIs: J. Lawler, S. Polasky, B. Dilkina, V. Radeloff, A. Plantinga, S. Martinuzzi, D. Kling, J. Withey, E. Nelson. Submitted 11/15, Final ranking = Competitive. Re-submitted 11/16, Final ranking = Highly competitive.

“Efficiency of U.S. Land-Use Patterns in Providing Ecosystem Services.” USDA – National Institute of Food and Agriculture Foundational Program. \$496,882 (D.J. Lewis lead PI; co-PIs: S. Polasky, V. Radeloff, A. Plantinga, S. Martinuzzi, J. Johnson, and P. Hawthorne). Submitted 4/28/14. Final ranking = high priority. Re-Submitted 4/29/15. Final ranking = medium priority.

“The Built Environment and Obesity: Addressing Spatial Uncertainty with Econometric Sorting Models.” National Institute on Environmental Health Sciences. \$377,010 (with P. Hystad (lead PI) and C. Langpap). Submitted 6/15; Re-Submitted 3/17.

“Conservation Land Amenities and Inequality: A Difference-in-Differences Analysis of the Northwest Forest Plan.” USDA – National Institute of Food and Agriculture Foundational Program. \$385,292 (Y. Chen lead PI; co-PIs: D.J. Lewis, B. Weber, and M. Rahe). Submitted 4/28/14. Final ranking = medium priority.

“Fire Management Costs of Climate Change: Evidence from the Western U.S.” USDA – National Institute of Food and Agriculture Foundational Program. \$256,668 (D. Haim lead PI; co-PIs: D.J. Lewis and E. White). Submitted 4/28/14. Final ranking = low priority.

“An Empirical Analysis of the Impacts of Climate Change Policy on Land Use and Ecosystem Services: Evidence from a Fine-Scale National Model.” USDA – National Institute of Food and Agriculture Fellowships Grant Program. \$150,000 (Post-Doc for D. Bigelow – primary mentor: D.J. Lewis). Submitted 2/28/14. Final ranking = low priority.

“An Empirical Analysis Of Climate Change Adaptation And Policy Impacts On The U.S. Carbon Sink.” USDA – National Institute of Food and Agriculture Foundational Program. \$500,000. (Y. Hashida lead PI; co PIs: D.J. Lewis and B. Sohngen. Submitted 5/20.

“Drought, human adaptation, and resilient landscapes: Empirical analysis of landowners’ adaptation behavior in the Southeast and the Pacific Northwest.” USDA NIFA Foundational Program. \$650,000. (with Y. Hashida as lead). OSU share = \$334,547.

Last Updated: 9/5/23