

**Erik J. Nelson, Ph.D.**

Department of Economics

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**APPOINTMENTS**

Associate Professor, Department of Economics, Bowdoin College, 2017-Present.

Assistant Professor, Department of Economics, Bowdoin College, 2010-2017.

Postdoctoral researcher, Natural Capital Project, Stanford University, 2007-2010.

**EDUCATION**

University of Minnesota, Minneapolis, Minnesota.

Ph.D. in Applied Economics with a concentration in Environmental Economics and a minor in Conservation Biology, 2007.

University of Minnesota, Minneapolis, Minnesota.

M.A. in Public Affairs with a concentration in Environmental Policy and Economic Development, 1998.

Boston College, Chestnut Hill, Massachusetts.

B.A. in Philosophy and Political Science, 1993.

**WORKING PAPERS**

See my [Google Scholar](#) and [ResearchGate](#) pages.

**Nelson, E.**, M. Rogers, S. Wood, J. Chung, and B. Keeler. 2020. Using 'big data' to explain visits to lakes in 17 US states. Bowdoin Economics Department Working Paper Series. 17. <https://digitalcommons.bowdoin.edu/econpapers/17>

**Nelson, E.** 2020. Where do the poor live in cities? Revisiting the role of public transportation on income sorting in US urban areas. 2020. Bowdoin Economics Department Working Paper Series. 16. <https://digitalcommons.bowdoin.edu/econpapers/16>

Cavender-Bares, J., **E. Nelson**, J. Meireles, J. Lasky, D. Miteva, D. Nowak, W. Pearse, M. Helmus, A. Zanne, W. Fagan, C. Mihiar, N.Z. Muller, N. Kraft, and S. Polasky. 2019. The Hidden Value of Trees: Quantifying the Ecosystem Services of Tree Lineages and Their Major Threats Across the Continental US. *EcoEvoRxiv*. DOI: 10.32942/osf.io/gp7mt.

## PEER-REVIEWED JOURNAL ARTICLES

Kaminski, A., D. Bauer, K.P. Bell, C. Loftin, and **E. Nelson**. 2020. Using landscape metrics to characterize towns along an urban-rural gradient. *Landscape Ecology*, under review.

**Nelson, E.**, J. Fitzgerald, and N.W. Tefft. 2019. The Distributional Impact of a Green Payment Policy for Organic Fruit. *PLOS ONE*, 14(2): e0211199. DOI: 10.1371/journal.pone.0211199.

Smith, W.K., **E. Nelson**, J.A. Johnson, S. Polasky, J.C. Milder, J.S. Gerber, P.C. West, S. Siebert, K. Brauman, K.M. Carlson, M. Arbuthnot, J.P. Rozza, and D.N. Pennington, 2019. Voluntary sustainability standards could significantly reduce detrimental impacts of global agriculture. *Proceedings of the National Academy of Sciences*, 116(6): 2130-2137. DOI: 10.1073/pnas.1707812116.

**Nelson, E.** and N. Sadowsky. 2019. Estimating the Impact of Ride-Hailing App Company Entry on Public Transportation Use in Major US Urban Areas. *The B.E. Journal of Economic Analysis & Policy*, 19(1). DOI: 10.1515/bejeap-2018-0151.

Pennington, D., B. Dalzell, **E. Nelson**, S. Polasky, D. Mulla, S. Taff, and P. Hawthorne. 2017. Cost-Effective Land Use Planning: Optimizing spatial land management to maximize social benefits. *Ecological Economics*, 139: 75–90. DOI: 10.1016/j.ecolecon.2017.04.024.

Bauer, D. M., K. P. Bell, **E. Nelson**, and A. J. K. Calhoun. 2017. Managing small natural features: A synthesis of economic issues and emergent opportunities. *Biological Conservation*, 211, Part B: Pages 80-87 (Senior authorship shared among Bauer, Bell, and Nelson). DOI: 10.1016/j.biocon.2017.01.001

- Hunter, Jr., M.L., V. Acuña, D. M. Bauer, K. P. Bell, A. J. K. Calhoun, M.R. Felipe-Lucia, J. Fitzsimons, E. González, M. Kinnison, D. Lindenmayer, C. J. Lundquist, R. Medellín, **E. Nelson**, and P. Poschlod. 2017. Conserving small natural features with large ecological roles: a synthetic summary. *Biological Conservation*, 211, Part B: 88-95. DOI: 10.1016/j.biocon.2016.12.020.
- Nelson, E.**, J. Withey, D. Pennington, and J.J. Lawler. 2017. Identifying the Impacts of Critical Habitat Designation on Land Cover Change. *Resource and Energy Economics*, 47: 89-125. DOI: 10.1016/j.reseneeco.2016.12.002.
- Nelson, E.**, and C. B. Congdon. 2016. Measuring the relative importance of different agricultural inputs to global and regional crop yield growth since 1975 [version 1; referees: 2 approved with reservations]. *F1000Research*, 5: 2930. DOI: 10.12688/f1000research.10419.1.
- Nelson, E.**, M. Helmus, J. Cavender-Bares, S. Polasky, J. Lasky, A. Zanne, W. Pearse, N. Kraft, D. Miteva, and W. Fagan. 2016. Commercial plant production and consumption still follow the latitudinal gradient in species diversity despite economic globalization. *PLoS ONE* 11(10): e0163002. DOI:10.1371/journal.pone.0163002.
- Nelson, E.** and V. Matzek. 2016. Carbon credits compete poorly with agricultural commodities in an optimized model of land use in Northern California. *Climate Change Economics*, 7(4): 1650009. DOI: 10.1142/S2010007816500093.
- Marlier, M.E., R. DeFries, D. Pennington, **E. Nelson**, E.M. Ordway, J. Lewis, S.N. Koplitz, and L.J. Mickley. 2015. Future fire emissions associated with projected land use change in Sumatra. *Global Change Biology*, 21: 345-362. DOI: 10.1111/gcb.12691
- Lawler, J.J., D.J. Lewis, **E. Nelson**, A.J. Plantinga, S. Polasky, J.C. Withey, D.P. Helmers, S. Martinuzzi, D. Pennington, and V.C. Radeloff. 2014. Projected land-use change impacts on ecosystem services in the U.S. *Proceedings of the National Academy of Sciences*, 111: 7492-7497. DOI: 10.1073/pnas.1405557111.
- Polasky, S., D.J. Lewis, A.J. Plantinga, and **E. Nelson**. 2014. Implementing the Optimal Provision of Ecosystem Services. *Proceedings of the National Academy of Sciences*, 111: 6248-6253. DOI: 10.1073/pnas.1404484111.

- Nelson, E.**, P. Kareiva, M. Ruckelshaus, K. Arkema, G. Geller, E. Girvetz, D. Goodrich, V. Matzek, M. Pinsky, W. Reid, M. Saunders, D. Semmens, and H. Tallis. 2013. Climate change's impact on key ecosystem services and the human well-being they support in the U.S. *Frontiers in Ecology and the Environment*, 11: 483–893. DOI: 10.1890/120312.
- Stein, B.A., A. Staudt , M. S. Cross, N. Dubois, C. Enquist, R. Griffis, L. Hansen, J. Hellman , J. J. Lawler, **E. Nelson**, and A. Pairis. 2013. Preparing for and managing change: climate adaptation for biodiversity and ecosystems. *Frontiers in Ecology and the Environment*, 11: 502–510. DOI: 10.1890/120277
- Kovacs, K., S. Polasky, **E. Nelson**, B.L. Keeler, D. Pennington, A.J. Plantinga, and S.J. Taff. 2013. Evaluating the Return in Ecosystem Services from Investment in Public Land Acquisitions. *PLoS One*, 8(6), e62202. DOI: 10.1371/journal.pone.0062202
- Withey, J., J. Lawler, S. Polasky, A. Plantinga, **E. Nelson**, P. Kareiva, C. Wilsey, C. Schloss, T. Nogeire, A. Ruesch, J. Ramos, Jr., and W. Reid. 2012. Maximizing return on conservation investment in the conterminous U.S. *Ecology Letters*, 15: 1249-1256. DOI: 10.1111/j.1461-0248.2012.01847.x.
- Polasky, S., K. Johnson, B. Keeler, K. Kovacs, **E. Nelson**, D. Pennington, A. J. Plantinga, and J. Withey. 2012. Are investments to promote biodiversity conservation and ecosystem services aligned? *Oxford Review of Economic Policy*, 28(1): 139-163. DOI: 10.1093/oxrep/grs011.
- Reprinted in *Nature in the Balance: The Economics of Biodiversity*, D. Helm and C. Hepburn, eds. 2014. Oxford: Oxford University Press.
- Johnson, K. A., S. Polasky, **E. Nelson**, and D. Pennington. 2012. Uncertainty in ecosystem services valuation and implications for assessing land use tradeoffs: An agricultural case study in the Minnesota River Basin. *Ecological Economics*, 79: 71–79. DOI: 10.1016/j.ecolecon.2012.04.020

- Radeloff, V. C., **E. Nelson**, A. J. Plantinga, D. J. Lewis, D. Helmers, J. J. Lawler, J. C. Withey, F. Beaudry, S. Martinuzzi, V. Butsic, E. Lonsdorf, D. White, 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. DOI: 10.1890/11-0306.1
- Runge, C.F., **E. Nelson**, C.P. Runge, and J. Levine. 2012. Obesity overtaken by leanness as a repeated game: social networks and indirect reciprocity. *Environmental Economics* 3(1): 8–22.
- Lewis, D.J., A.J. Plantinga, **E. Nelson**, and S. Polasky. 2011. The efficiency of voluntary incentive policies for preventing biodiversity loss. *Resource and Energy Economics* 33 (1): 192–211. DOI: 10.1016/j.reseneeco.2010.04.012
- Polasky, S., **E. Nelson**, D. Pennington and K. A. Johnson. 2011. The impact of land-use change on ecosystem services, biodiversity and returns to landowners: a case study in the state of Minnesota. *Environmental and Resource Economics* 48(2): 219–242. DOI: 10.1007/s10640-010-9407-0
- Nelson, E.**, H. Sander, P. Hawthorne, M. Conte, D. Ennaanay, S. Wolny, S. Manson, and S. Polasky. 2010. Projecting Global Land-Use Change and Its Effect on Ecosystem Service Provision and Biodiversity with Simple Models. *PLOS ONE* 5 (12): e14327. DOI: 10.1371/journal.pone.0014327
- Fargione, J.E., T.R. Cooper, D. J. Flaspohler, J. Hill, C. Lehman, T. McCoy, S. McLeod, **E. Nelson**, K. S. Oberhauser, and D. Tilman. 2009. Bioenergy and wildlife: threats and opportunities for grassland conservation. *BioScience* 59 (9): 767–777. DOI: 10.1525/bio.2009.59.9.8
- Hill, J., S. Polasky, **E. Nelson**, D. Tilman, H. Huo, L. Ludwig, J. Neumann, H. Zheng, and D. Bonta. 2009. Climate change and health costs of air emissions from biofuels and gasoline. *Proceedings of the National Academy of Sciences* 106 (6): 2077–2082. DOI: 10.1073/pnas.0812835106

**Nelson, E.**, G. Mendoza, J. Regetz, S. Polasky, H. Tallis, D.R. Cameron, K.M.A. Chan, G. Daily, J. Goldstein, P. Kareiva, E. Lonsdorf, R. Naidoo, T. Ricketts, and M.R. Shaw. 2009. Modeling multiple ecosystem services, biodiversity conservation, commodity production, and tradeoffs at landscape scales. *Frontiers in Ecology and the Environment* 7(1): 4–11. DOI: 10.1890/080023

**Nelson, E.**, S. Polasky, D.J. Lewis, A.J. Plantinga, E. Lonsdorf, D. White, D. Bael, and J.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. DOI: 10.1073/pnas.0706178105

Polasky, S., **E. Nelson**, J. Camm, B. Csuti, P. Fackler, E. Lonsdorf, D. White, J. Arthur, B. Garber-Yonts, R. Haight, J. Kagan, C. Montgomery, A. Starfield and C. Toballske. 2008. Where to put things? Spatial land management to sustain biodiversity and economic production. *Biological Conservation* 141 (6): 1505–1524. DOI: 10.1016/j.biocon.2008.03.022

**Nelson, E.**, M. Uwasu and S. Polasky. 2007. Voting on open space: what explains the appearance and support of municipal-level open space conservation referenda in the United States? *Ecological Economics* 62 (3-4): 580–593. DOI: 10.1016/j.ecolecon.2006.07.027

Hill, J., **E. Nelson**, D. Tilman, S. Polasky and D. Tiffany. 2006. Environmental, economic, and energetic costs and benefits of biodiesel and ethanol biofuels. *Proceedings of the National Academy of Sciences* 103 (30): 11206–11210. DOI: 10.1073/pnas.0604600103

Polasky, S., **E. Nelson**, E. Lonsdorf, P. Fackler and A. Starfield. 2005. Conserving species in a working landscape: land use with biological and economic objectives. *Ecological Applications* 15 (4): 1387–1401. DOI: 10.1890/03-5423

Reprinted in *Biodiversity Economics: Principles, Methods and Applications* A. Kontoleon, U. Pascual, and T. Swanson, eds. 2007. New York: Cambridge University Press.

## OTHER PUBLICATIONS

- U.S. Environmental Protection Agency Clean Air Scientific Advisory Committee (CASAC). 2020. CASAC Review of the EPA's Integrated Science Assessment for Oxides of Nitrogen, Oxides of Sulfur, and Particulate Matter – Ecological Criteria (Second External Review Draft – June 2018). EPA-CASAC-20-004 and EPA-CASAC-20-005.
- Littlefield, C., **E. Nelson**, B. J Dittbrenner, J. Withey, K. K. Arkema, and J. J. Lawler. 2019. Ecosystem-based adaptation. Ch. 23 in T.E Lovejoy and L. Hannah, eds., *Biodiversity and Climate Change: Transforming the Biosphere*. New Haven: Yale University Press. DOI: 10.2307/j.ctv8jnz1.38
- Marvin, D. C., D. R. Cameron, **E. Nelson**, A. Plantinga, J. Breck, G. Sencan, and M. Passero. 2018. Capturing Carbon in California: Economic and Climate Benefits of Land Use Interventions through 2100. A report commissioned by Next 10.
- Pennington, D. N., **E. Nelson**, M. Anderson, M. Macedo, M. Coe, A. Daniels, D. Schmoll, and M. Symington. 2016. Evaluating the Role of the Amazon Protected Areas Program and Anti-Deforestation Policies for Supplying Hydropower, Avoiding Carbon Emissions, and Economic Returns in the Brazilian Amazon. Pages 63-78 in A.A. Aguirre and R. Sukumar, eds. *Tropical Conservation: Perspectives on Local and Global Priorities*. New York: Oxford University Press.
- U.S. Environmental Protection Agency Clean Air Scientific Advisory Committee (CASAC). 2016. CASAC Review of the EPA's Draft Integrated Review Plan for the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur. EPA-CASAC-16-001. April 1, 2016
- Nelson, E.**, J. Withey, D. Pennington, and J.J. Lawler. 2015. Identifying the Impact of Critical Habitat Designation on Land Cover Change. Resources for the Future Discussion Paper 15-27 (This paper is one in a series of retrospective analyses from RFF's Regulatory Performance Initiative).
- Lewis, D.J. and **E. Nelson**. 2014. The Economics of Wildlife Conservation. Pages 163-195 in J. Wu and J. Duke, eds., *Oxford Handbook of Land Economics*. New York: Oxford University Press. (Senior authorship shared).

- Pennington, D.N., M. Anderson, M. Coe, A. Daniels, M. Macedo, **E. Nelson**, and D. Schmoll. 2013. Evaluating the Role of ARPA and Anti-Deforestation Policies for Supplying Hydropower, Avoiding Carbon Emissions, and Economic Returns in the Brazilian Amazon. Report prepared for Linden Trust and Moore Foundation.
- Nelson, E.**, N. Bhagabati, D. Ennaanay, E. Lonsdorf, D. Pennington, and M. Sharma. 2013. Modeling Terrestrial Ecosystem Services. In S. Levin, ed. *Encyclopedia of Biodiversity, 2<sup>nd</sup> Edition*. Amsterdam: Elsevier.
- Nelson, E.** 2013. Book Review: The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations, edited by Pushpam Kumar. *Journal of Natural Resources Policy Research*, DOI:10.1080/19390459.2013.763324.
- Dalzell, B., D.N. Pennington, S. Polasky, D. Mulla, S. Taff, and **E. Nelson**. Lake Pepin Watershed Full Cost Accounting Project. Final Report Prepared for the Minnesota Pollution Control Agency. July 2012.
- Kareiva, P., M. Ruckelshaus, K. Arkema, G. Geller, E. Girvetz, D. Goodrich, **E. Nelson**, V. Matzek, M. Pinsky, W. Reid, M. Saunders, D. Semmens, and H. Tallis. 2012. Impacts of Climate Change on Ecosystem Services. Chapter 4 in Shawn Carter, F. Stuart Chapin III, Nancy Grimm, Peter Kareiva, Mary Ruckelshaus, Michelle Staudinger, Amanda Staudt, Bruce Stein, eds. *Climate Change Impacts on Biodiversity, Ecosystems, and Ecosystem Services: Technical Input to the National Climate Assessment*. Reston, VA: U.S. Geological Survey.
- Stein, B.A., A. Staudt, M.S. Cross, N. Dubois, C. Enquist, R. Griffis, L. Hansen, J. Hellman, J. J. Lawler, **E. Nelson**, A. Pairis. 2012. Adaptation to Impacts of Climate Change on Biodiversity, Ecosystems, and Ecosystem Services. Ch. 6 in Shawn Carter, F. Stuart Chapin III, Nancy Grimm, Peter Kareiva, Mary Ruckelshaus, Michelle Staudinger, Amanda Staudt, Bruce Stein, eds. *Climate Change Impacts on Biodiversity, Ecosystems, and Ecosystem Services: Technical Input to the National Climate Assessment*. Reston, VA: U.S. Geological Survey.
- Mendoza, G., D. Ennaanay, M. Conte, M.T. Walter, D. Freyberg, S. Wolny, L. Hay, S. White, **E. Nelson**, and L. Solorzano. 2011. Water supply as an ecosystem service for hydropower and irrigation. In P. Kareiva, H. Tallis, T. Ricketts, G. Daily, and S. Polasky, eds., *Natural Capital. Theory and Practice of Mapping Ecosystem Services*. New York: Oxford University Press.

Conte, M., D. Ennaanay, G. Mendoza, M. T. Walter, S. Wolny, D. Freyberg, **E. Nelson**, and L. Solorzano. 2011. Retention of nutrients and sediment by vegetation. In P. Kareiva, H. Tallis, T. Ricketts, G. Daily, and S. Polasky, eds., *Natural Capital. Theory and Practice of Mapping Ecosystem Services*. New York: Oxford University Press.

Conte, M., **E. Nelson**, K. Carney, C. Fissore, N. Olwero, A.J. Plantinga, B. Stanley, and T. Ricketts. 2011. Terrestrial carbon sequestration and storage. In P. Kareiva, H. Tallis, T. Ricketts, G. Daily, and S. Polasky, eds., *Natural Capital. Theory and Practice of Mapping Ecosystem Services*. New York: Oxford University Press.

**Nelson, E.**, C. Montgomery, M. Conte, and S. Polasky. 2011. The provisioning value of timber and non-timber forest production. In P. Kareiva, H. Tallis, T. Ricketts, G. Daily, and S. Polasky, eds., *Natural Capital. Theory and Practice of Mapping Ecosystem Services*. New York: Oxford University Press.

**Nelson, E.**, S. Wood, J. Koo, and S. Polasky. 2011. Provisioning and regulatory service values in agriculture. In P. Kareiva, H. Tallis, T. Ricketts, G. Daily, and S. Polasky, eds., *Natural Capital. Theory and Practice of Mapping Ecosystem Services*. New York: Oxford University Press.

Adamowicz, V., R. Naidoo, **E. Nelson**, S. Polasky, and J. Zhang. 2011. Nature-based tourism and recreation. In P. Kareiva, H. Tallis, T. Ricketts, G. Daily, and S. Polasky, eds., *Natural Capital. Theory and Practice of Mapping Ecosystem Services*. New York: Oxford University Press.

**Nelson, E.**, D. R. Cameron, J. Regetz, S. Polasky, and G. Daily. 2011. Terrestrial biodiversity. In P. Kareiva, H. Tallis, T. Ricketts, G. Daily, and S. Polasky, eds., *Natural Capital. Theory and Practice of Mapping Ecosystem Services*. New York: Oxford University Press.

Tallis, H., S. Pagiola, W. Zhan, S. Shaikh, **E. Nelson**, C. Stanton, and P. Shyamsundar. 2011. Poverty and the distribution of ecosystem services. In P. Kareiva, H. Tallis, T. Ricketts, G. Daily, and S. Polasky, eds., *Natural Capital. Theory and Practice of Mapping Ecosystem Services*. New York: Oxford University Press.

- Lawler, J.J., **E. Nelson**, M. Conte, S.L. Shafer, D. Ennaanay, G. Mendoza. 2011. Modeling the impacts of climate change on ecosystem services. In P. Kareiva, H. Tallis, T. Ricketts, G. Daily, and S. Polasky, eds., *Natural Capital. Theory and Practice of Mapping Ecosystem Services*. New York: Oxford University Press.
- Nelson, E.** and D. John. 2011. Book Review: Integrated Regional Assessment of Global Climate Change, edited by C. Gregory Knight and Jill Jäger. *Journal of Regional Science* 51: 642–643.
- Tallis, H. T., T. Ricketts, A.D. Guerry, **E. Nelson**, D. Ennaanay, S. Wolny, N. Olwero, K. Vigerstol, D.N. Pennington, G. Mendoza, J. Aukema, J. Foster, J. Forrest, D. Cameron, E. Lonsdorf, C. Kennedy, G. Verutes, C. K. Kim, G. Guannel, M. Papenfus, J. Toft, M. Marsik, and J. Bernhardt. 2011. InVEST 2.0 beta User’s Guide. The Natural Capital Project, Stanford.
- Nelson, E.** and G.C. Daily. 2010. Modelling ecosystem services in terrestrial systems. *F1000 Biology Reports* 2: 53.
- Tallis, H., J. Lubchenco, and 238 co-signatories. 2014. Working together: A call for inclusive conservation. *Nature* 515: 27–28. (I am a co-signatory).

## STUDENT RESEARCH

### *Featured Honors Projects*

- Lu Miao, class of '17: Water Funds as an Effective Conservation Tool to China’s Non-point Source Pollution Problem: Lessons Based on Latin American Case Studies.
- John L. Anderson, class of '16: Modelling and Testing Consumer Engagement in the U.S. Organic Food Market.
- Jeremiah Lewis, class of '13: The Social Economics of Breaking Bread: Dining at Bowdoin College.
- Curtis Morrill, class of '12: Wind Power in Maine: Quantifying Economic and Environmental Trade-offs.

### *Featured Independent Study Projects*

- Matthew Peknay, class of '18: Successful Losing: The Art of Tanking in the NBA.
- Jesse Chung, class of '18: Using big data to estimate recreational demand for clean water: evidence from geotagged photographs by visitors to lakes.
- Chad Martin, class of '16: Predicting Movie Success.

Ryan D. Larochelle, class of '13: Employment-Based Health Insurance: Contemplating the Viability of an Accidental and Outdated System.

Leah Wang, class of '12:, Addressing barriers to entry into farmer's markets faced by the low-income: SNAP programs in Maine farmer's markets.

## RESEARCH GRANTS

Workshop Grant, The Center for Growth & Opportunity, Utah State University, 4/7/2020 – 7/21/2020, \$2,000.

Faculty Leave Supplement, Bowdoin College, 1/1/2020 – 5/31/2020, \$45,000.

Economic Assessment of Land-Based Strategies to Mitigate Climate Change in California., NEXT10, 3/1/2017 – 8/1/2018, co-Principal Investigator, \$75,000.

CNH: Of pools and people: small natural features with large ecosystem functions in urbanizing landscapes, National Science Foundation, 1/1/2014–12/31/2017, co-Principal Investigator, \$1,496,721.

Luc Hoffman Institute, Research Grant, *Assessing the impact of terrestrial commodity standards*, PI: Pennington, D., Folely, J., Polasky, S., Nelson, E., Carlson, K., Jungmann, L. (\$340,000). Assess the degree to which sustainability standards are leading to better environmental, social and economic outcomes and whether these standards can help society meet the future demand for agriculture products while sustaining important environmental services and biodiversity.

Faculty Leave Supplement, Bowdoin College, 1/1/2014–5/31/2014, \$32,000.

Riparian Forests As Ecological And Economic Buffers Against Climate Vulnerability In Flood-Prone Agricultural Systems, Consultant, USDA/NIFA Integrated Approaches to Adaptation and Mitigation in Agroecosystems /A3142, Consultant, \$146,106.

Economic analysis of impacts of commodity sustainability standards and development of alternative scenarios, World Wildlife Fund, 12/1/2013–11/30/2014, Investigator, \$10,000.

Assessing the Cost of the Critical Habitat Rule under the Endangered Species Act: A Retrospective Study of Regulatory Performance, Resources for the Future, 10/1/2013–3/1/2015, co-Principal Investigator, \$37,000.

Updated 7/6/20

Incorporating economic realism and externalities into yield gap measurements, Centre for Environmental and Climate Research (CEC), Lund University, 9/1/2013–5/31/2014, Sabbatical salary support, \$16,000.

Evaluating the role of Amazon Region Protected Areas (ARPA) for supplying hydropower, World Wildlife Fund, 2/27/2012–12/31/2012, Investigator, \$15,000.

Mapping Alternative Land-use Change Scenarios in Sumatra, World Wildlife Fund, 2/1/2013–7/31/2013, Investigator, \$9,940.

## **PROFESSIONAL SERVICE**

Assigning Editor, *Ecological Applications*, 2012 –.

Member of the United States' Environmental Protection Agency (EPA) Clean Air Scientific Advisory Committee (CASAC) Secondary National Ambient Air Quality Standards Review Panel for Oxides of Nitrogen and Sulfur, 2015 – 2020.

Member of the Tipping Points Virtual Review Panel for the Foundation for Food and Agriculture Research's Pilot Program: Tipping Points, 2018.

Reviews for *American Economic Journal: Economic Policy*; *American Journal of Agricultural Economics*; *Australian Journal of Agricultural and Resource Economics*; *Climate Change Economics*; *Climatic Change*; *Conservation Biology*; *Conservation Letters*; *Ecological Applications*; *Ecological Economics*; *Ecology and Society*; *Ecology Letters*; *Environmental Management*; *Environmental and Resource Economics*; *Frontiers in Ecology and the Environment*; *Global Environmental Change*; *Journal of Environmental Economics and Management*; *Land Ecology*; *Land Economics*; *Nature Climate Change*; *Nature Sustainability*; *PLOS ONE*; *Proceedings of the National Academy of Sciences*; *Resource and Energy Economics*; *Ecology and Society*; *Science*; *Trends in Food Science and Technology*.

## **PROFESSIONAL MEMBERSHIPS**

Association for Environmental and Resource Economists (AERE).

American Economic Association (AEA).