

## Curriculum Vitae

**Epanchin-Niell, Rebecca Suzanne**

Department of Agricultural and Resource Economics

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### Academic Appointments at UMD

Associate Professor, Department of Agricultural and Resource Economics, University of Maryland, College Park, August 2021 – present

I.A. Visiting Associate Professor, Department of Agricultural and Resource Economics, University of Maryland, College Park, August 2020 – July 2021 (50% time)

### I.B. Other Employment/Appointments

Senior Fellow, Resources for the Future, Washington DC, 2019 – Present

Fellow with Indefinite Appointment (tenure equivalent), Resources for the Future, Washington DC, 2016 – 2019

Fellow, Resources for the Future, Washington, DC, 2010 – 2016

Postdoctoral Fellow, Agricultural & Resource Economics, University of California, Davis, 2009 – 2010

Research Associate, Dept. of Resource Economics, University of Nevada, Reno, 2003 – 2004

Independent Biological Consultant, Reno, NV, 2000 – 2003

Research Technician, Biological Resources Research Center, University of Nevada, Reno, 1997 – 1998

### I.C. Educational Background

B.S. Stanford University, Earth Systems, 1997

M.S. University of Nevada, Reno, Biology, 2001

M.S. University of Nevada, Reno, Applied Economics & Statistics, 2003

Ph.D. University of California, Davis, Agricultural & Resource Economics, 2009

### I.D. Professional Certifications, Licenses, and Memberships

## *Memberships*

Agricultural & Applied Economics Association (AAEA)  
Association of Environmental and Resource Economists (AERE)  
Society for Conservation Biology (SCB)  
Ecological Society of America (ESA)

## **II. Research, Scholarly, Creative and/or Professional Activities**

### II.A. Books

#### II.A.1. Books Authored

Blackman, A., R. Epanchin-Niell, J. Siikamäki, and D. Velez-Lopez. 2014. *Biodiversity Conservation in Latin America and the Caribbean: Prioritizing Policies*. Environment for Development Series. RFF Press. ISBN-10: 0415730961 (original edition)

### II.B. Chapters

#### II.B.1. Books

Eiswerth, M., R. Epanchin-Niell, K. Rollins, and M. Taylor. 2016. "Economic modeling and the management of exotic annual *Bromus* species: Accounting for ecosystem dynamics, ecological thresholds, and spatial interdependencies." In Germino, M.J., Chambers, J.C., Brown, C.S., eds., *Exotic Brome-Grasses in Arid and Semiarid Ecosystems of the Western US: Causes, Consequences, and Management Implications*, Springer International Publishing, p. 429-456.

### II.C. Refereed Journals

#### Refereed Journal Articles

1. Bixler, R. Patrick, Rebecca S. Epanchin-Niell, Mark W. Brunson, Ryan Tarver, Benjamin A. Sikes, Clare E. Aslan. 2022. "How social and ecological characteristics shape transaction costs in polycentric wildfire governance: Insights from the Sequoia-Kings Canyon Ecosystem, California, USA." *Ecology and Society*. Forthcoming.
2. Aslan, C. E., Zachmann, L., Epanchin-Niell, R. S., Brunson, M. W., Veloz, S., Sikes, B. A. (2022). Soil characteristics and bare ground cover differ among jurisdictions and disturbance histories in Western US protected area-centered ecosystems. *Frontiers in Ecology and Evolution*, 10. [10.3389/fevo.2022.1053548](https://doi.org/10.3389/fevo.2022.1053548)
3. Aslan, C. E., Veloz, S., Epanchin-Niell, R. S., Brunson, M. W., Sikes, B. A. (2022). Integrating Social and Ecological Predictors to Understand Variation within Ecosystems: A Case Study of the Great Smoky Mountains National Park PACE. *Natural Areas Journal*, 42(4), 284-292. [10.3375/22-12](https://doi.org/10.3375/22-12)
4. Ashander, J., Kroetz, K., Epanchin-Niell, R., Phelps, Nicholas B. D., Haight, R. G., Dee, L. E. (2022). Guiding large-scale management of invasive species using network metrics. *Nature Sustainability*, 5(9), 762-769. [10.1038/s41893-022-00913-9](https://doi.org/10.1038/s41893-022-00913-9)

5. Pepin, K. M., Davis, A. J., Epanchin-Niell, R. S., Gormley, A. M., Moore, J. L., Smyser, T. J., Shaffer, H. B., Kendall, W. L., Shea, K., Runge, M. C., McKee, S. (2022). Optimizing management of invasions in an uncertain world using dynamic spatial models. *Ecological Applications*, 32(6). [10.1002/eap.2628](https://doi.org/10.1002/eap.2628)
6. Steward, R. A., Epanchin-Niell, R. S., Boggs, C. L. (2022). Novel host unmasks heritable variation in plant preference within an insect population. *Evolution*, 76(11), 2634-2648. [10.1111/evo.14608](https://doi.org/10.1111/evo.14608)
7. Iacona, G. D., Avery-Gomm, S., Maloney, R. F., Brazill-Boast, J., Crouse, D. T., Drew, C. A., Epanchin-Niell, R. S., Hall, S. B., Maguire, L. A., Male, T., Newman, J., Possingham, H. P., Rumpff, L., Runge, M. C., Weiss, K. C., Wilson, R. S., Zablan, M. A., Gerber, L. R. (2022). Hurdles to developing quantitative decision support for Endangered Species Act resource allocation. *Frontiers in Conservation Science*, 3. <http://dx.doi.org/10.3389/fcosc.2022.1002804> [10.3389/fcosc.2022.1002804](https://doi.org/10.3389/fcosc.2022.1002804)
8. Epanchin-Niell, R.S., Jackson-Smith, D.B., Wilson, R.S., Ashenfarb, M., Dayer, A.A., Hillis, V., Iacona, G.D., Markowitz, E.M., Marquart-Pyatt, S.T. and Treakle, T., (2022). *Private land conservation decision-making: An integrative social science model. Journal of Environmental Management*, 302, p.113961. <https://doi.org/10.1016/j.jenvman.2021.113961>
9. Epanchin-Niell, R., Lu, J., Thompson, A., Tobin, P. C., Gray, D. R., & Liebhold, A. M. (2021). Socio-environmental drivers of establishment of *Lymantria dispar*, a nonnative forest pest, in the United States. *Biological Invasions*, 1-17. <https://doi.org/10.1007/s10530-021-02637-x>
10. Epanchin-Niell, R., Thompson, A. L., & Treakle, T. (2021). Public contributions to early detection of new invasive pests. *Conservation Science and Practice*, 3(6), e422.
11. Aslan, C.E., Zachmann, L., McClure, M., Sikes, B.A., Veloz, S., Brunson, M.W., Epanchin-Niell, R.S. and Dickson, B.G., (2021) "Quantifying ecological variation across jurisdictional boundaries in a management mosaic landscape." *Landscape Ecology*, pp.1-19
12. Welsh, M.J., Turner, J.A., Epanchin-Niell, R.S., Monge, J.J., Soliman, T., Robinson, A.P., Kean, J.M., Phillips, C., Stringer, L.D., Vereijssen, J. and Liebhold, A.M., (2021) "Approaches for estimating benefits and costs of interventions in plant biosecurity across invasion phases." *Ecological Applications*, p.e2319. <https://doi.org/10.1002/eap.2319>
13. Aslan, C.E., M.W. Brunson, B.A. Sikes, R.S. Epanchin-Niell, S. Veloz, D.M. Theobald, B.G. Dickson. (2021) "Coupled ecological and management connectivity across administrative boundaries in undeveloped landscapes". *Ecosphere*. 12(1). p.e03329. <https://doi.org/10.1007/s10980-021-01198-7>
14. Epanchin-Niell, R., C. McAusland, A. Liebhold, P. Mwebaze, and M. Springborn. (2021) "Biological invasions and international trade: Managing a moving target." *Review of Environmental Economics and Policy*. 15(1). <https://doi.org/10.1086/713025>.

15. Gedan, K., R. Epanchin-Niell, and M. Qi. (2020) Rapid land cover change in a submerging coastal county. *Wetlands*. 1-12. <https://doi.org/10.1007/s13157-020-01328-y>
16. Epanchin-Niell, R. and J. Boyd. (2020) "Private sector conservation under the endangered species act: a return on investment perspective." *Frontiers in Ecology and the Environment*. 18 (7), 409-416. <https://esajournals.onlinelibrary.wiley.com/doi/10.1002/fee.2193>
17. Dayer, A.A., K.H. Redford, K.J. Campbell, C.R. Dickman, R. Epanchin-Niell, T. Grosholz, D. Hallac, E.F. Leslie, G. Plumb, L. Richardson, and M.W. Schwartz. (2020) "The unaddressed threat of invasive animals in U.S. National Parks." *Biological Invasions*. 22: 177–188.
18. Tully, K., K. Gedan, R. Epanchin-Niell, A. Strong, E. Bernhardt, T. BenDor, M. Mitchell J. Kominoski, T. Jordan, S. Neubauer, N. Weston. (2019) "The invisible flood: the chemistry, ecology, and social implications of coastal saltwater intrusion" *Bioscience* 69(5):368-378.
19. Gerber, L., M. Runge, R. Maloney, G. Iacona, C. Drew, S. Avery-Gomm, J. Brazill-Boast, D. Crouse, R. Epanchin-Niell, S. Hall, L. Maguire, T. Male, D. Morgan, J. Newman, H. Possingham, L. Rumpff, K. Weiss, R. Wilson, and M. Zablan. (2018) "Endangered species recovery: A resource allocation problem." *Science* 362(6412): 284-286.
20. Chen, C., R. Epanchin-Niell, and R.G. Haight. (2018) "Optimal inspection of imports to prevent invasive pest introduction." *Risk Analysis*. 38(3): 603-619.
21. Epanchin-Niell, R. (2017) "Economics of invasive species policy and management." *Biological Invasions*. 19: 3333–3354.
22. Epanchin-Niell, R., Y. Kuwayama, and M. Walls. (2017) "Spatial-dynamic complexities of the climate challenge for rural areas: Integrating resource and regional economic insights." *American Journal of Agricultural Economics*. 99(2): 447-463.
23. Epanchin-Niell, R., C. Kousky, M. Walls, and A. Thompson. (2017) "Threatened protection: Sea level rise and coastal protected lands of the eastern United States." *Ocean & Coastal Management*. 137:118-130.
24. Blackburn, L. R. Epanchin-Niell, A. Thompson, and A. Liebhold. (2017) "Predicting costs of alien species surveillance across varying transportation networks." *Journal of Applied Ecology*. 54(1):225-233.
25. Springborn, M., A.R. Lindsay, and R.S. Epanchin-Niell. (2016) "Harnessing enforcement leverage at the border to minimize biological risk from international live species trade." *Journal of Economic Behavior & Organization*. 132(B):98-112.
26. Liebhold, A.M., L. Berc, E.G. Brockerhoff, R.S. Epanchin-Niell, A. Hastings, D.A. Herms, J.M. Kean, D.G. McCullough, D.M. Suckling, P.C. Tobin, and T. Yamanaka. (2016) "Eradication of invading insect populations: from concepts to applications." *Annual Review of Entomology*. 61: 335–352.

27. Evans, D., J. Che-Castaldo, D. Crouse, F. Davis, T. Eason, R. Epanchin-Niell, C. Flather, K. Frohlich, D. Goble, Y. Li, T. Male, L. Master, M. Neel, B. Noon, C. Parmesan, M. Schwartz, J. Scott, B. and Williams. (2016) "Recovery of endangered and threatened species in the United States." *Issues in Ecology*, Report Number 20. Ecological Society of America. 27 p.
28. Wilson, R.S., D.J. Hardisty, R.S. Epanchin-Niell, M.C. Runge, K.L. Cottingham, D. Urban, L. Maguire, A.M. Hasting, P.J. Mumby, and D.P.C. Peters. (2016) "A typology of time-scale mismatches and behavioral interventions to diagnose and solve conservation problems." *Conservation Biology*. 30(1):42-49.
29. Epanchin-Niell, R.S. and A. Liebhold. (2015) "Benefits of invasion prevention: effect of time lags, spread rates, and damage persistence." *Ecological Economics*. 116:146-143.
30. Eschen, R., Britton, K., Brockerhoff, E., Burgess, T., Dalley, V., Epanchin-Niell, R.S., Gupta, K., Hardy, G., Huang, Y., Kenis, M., Kimani, E., Li, H.-M., Olsen, S., Ormrod, R., Otieno, W., Sadof, C., Tadeu, E. and Theyse, M. (2015) "International variation in phytosanitary legislation and regulations governing importation of plants for planting." *Environmental Science and Policy* 51: 228-237.
31. Boyd, J., R. Epanchin-Niell, and J. Siikamäki. (2015) "Conservation planning: A review of return on investment analysis." *Review of Environmental Economics and Policy*. 9(1): 23-42.
32. Epanchin-Niell, R. and J. Wilen. (2015) "Independent and cooperative management of invasive species in human-mediated landscapes." *American Journal of Agricultural Economics*. 97(1): 180-198.
33. Berec, L., J. Kean, Epanchin-Niell, R.S., A. Liebhold, and R. Haight. (2015) "Designing efficient surveys: spatial arrangement of sample points for detection of invading species." *Biological Invasions*. 17:445-459.
34. Epanchin-Niell, R., E. Brockerhoff, J. Kean, and J. Turner. (2014) "Designing cost-efficient surveillance for early-detection and control of multiple invading species." *Ecological Applications*. 24:1258-1274.
35. Epanchin-Niell, R.S., R. Haight, L. Berec, J. Kean, and A. Liebhold. (2012) "Optimal surveillance and eradication of invasive species in heterogeneous landscapes." *Ecology Letters* 15: 803-812.
36. Blackwood, J., L. Berec, T. Yamanaka, R. Epanchin-Niell, A. Hastings, and A. Liebhold. (2012). "Bioeconomic synergism between tactics for insect eradication in the presence of Allee effects." *Proceedings of the Royal Society B*. 279(1739): 2807-2815.
37. Epanchin-Niell, R.S., and J.E. Wilen. (2012). "Optimal spatial control of biological invasions." *Journal of Environmental Economics and Management* 63(2): 260-270.
38. Epanchin-Niell, R., M. Hufford, C. Aslan, J. Sexton, J. Port, T. Waring. (2010). "Controlling invasive species in complex social landscapes." *Frontiers in Ecology and the Environment*. 8(4):210-216.

39. Epanchin-Niell, R.S., and A. Hastings. (2010). "Controlling established invaders: integrating economics and spread dynamics to determine optimal management." *Ecology Letters*. 13(4):528-541.
40. Epanchin-Niell, R.S., J. Englin, D. Nalle. (2009). "Investing in rangeland restoration in the arid west, USA: countering the effects of an invasive weed on the long-term fire cycle." *Journal of Environmental Management*. 91(2):370-379.
41. Aslan, C., R. Epanchin-Niell, M. Hufford, J. Port, J. Sexton, T. Waring. (2009). "Practical challenges in private stewardship of rangeland ecosystems: yellow starthistle control in Sierra Nevada foothills." *Rangeland Ecology and Management*. 62:28-37.
42. Niell, R. S., P.F. Brussard, D.D. Murphy. (2007). "Butterfly community change in response to rural residential development." *Landscape and Urban Planning*. 81(3):235-245.
43. Englin, J., T. Holmes, R. Niell. (2006). "Alternative models of recreational off-highway vehicle site demand." *Environmental and Resource Economics*. 35(4):327-338.

*Working papers*

Stanley, A, R. Epanchin-Niell, T. Treacle, G. Iacona. "Diverse partners, initiatives, and actions contribute to successful preemptive conservation of imperiled species" [Revise and Resubmit, *Conservation Biology*]

Veloz, S., R. Epanchin-Niell, M. Brunson, B. Sikes, L. Chamberlin, C. Aslan. "Fire speeds are influenced by landscape management mosaics." [Revise and Resubmit, *Journal of Environmental Management*]

Treacle, T., R. Epanchin-Niell, G. Iacona. Factors associated with preemptive conservation of imperiled species under the U.S. Endangered Species Act . [Revise and Resubmit, *Conservation Biology*]

Mondal, P., Matthew Walter, Jarrod Miller, Rebecca Epanchin-Niell, Keryn Gedan, Vishruta Yawatkar, Elizabeth Nguyen, Katherine L. Tully. "The spread and cost of saltwater intrusion in the US Mid-Atlantic" [Revise and Resubmit, *Nature Sustainability*]

Tucker, A.M., M.C. Runge, J. Ashander, R.E.W. Berl, J.R. Reimer, G.S. Boomer, I. Chadès, P.K. Devers, R.S. Epanchin-Niell, H. Kujala, J.E. Lyons, T.G Martin, T.L. Morelli, M.A. Rubenstein, A. Terando, Q. Zhao. "Natural resource management under global change: time-dependent strategies for non-stationary systems" [In Review, *Nature Sustainability*]

Ashenfarb, M., Carrie Dale Shaffer-Morrison, Robyn Wilson, Sandy Marquart-Pyatt, Rebecca Epanchin-Niell. "A latent class approach to social targeting conservation subsidies." [In Review, *Environmental and Resource Economics*]

Nguyen, Hoa-Thi-Minh, Long Chu, Andrew M. Liebhold, Rebecca Epanchin-Niell, John M Kean, Tom Kompas, Andrew Robinson, Eckehard Brockerhoff, Joslin L. Moore. "Optimal allocation of resources among general and species-specific tools for plant pest biosecurity surveillance." [In Review, *Ecological Economics*]

“Your money or your wildlife: environmental and economic tradeoffs from solar siting restrictions in Texas.” Shawhan, D., R. Epanchin-Niell, P. Picciano, A. Thompson, A. Krupnick.

“Evolving trade, transport, and spatial risk of invasive species introduction: implication for early detection.” Epanchin-Niell, R., Bigsby, K., M. Colunga-Garcia, D. Christie, D. Borchert, T. Treakle, L. Kennaway.

“Bioeconomic modeling for decision-support: optimizing early detection and control of invasive pests.” R. Epanchin-Niell.

## II.D. Published Conference Proceedings

### II.D.1. Non-Refereed Conference Proceedings

Epanchin-Niell, R. and A. Liebhold. 2018. “Informing cost-effective strategies for reducing pest risk from live plant imports.” Pp. 43-47. Appearing in: [Proceedings International Symposium for Risk Based Sampling](#), Baltimore, Maryland, June 26-30, 2017. North American Plant Protection Organization.

Springborn, M., A. Lindsay, and R. Epanchin-Niell. 2018. “Risk-based inspection: Setting policy parameters to harness enforcement leverage.” Pp. 48-53. Appearing in: [Proceedings International Symposium for Risk Based Sampling](#), Baltimore, Maryland, June 26-30, 2017. North American Plant Protection Organization.

## II.E. Conferences, Workshops, and Talks

### II.E.1. Invited Talks

#### *Academic seminars*

“Integrating Ecology and Economics for Managing Invasive Species.” Invasion Science Working Group, Virginia Tech. March 2022.

“Bioeconomic modeling for decision-support: optimizing early detection and control of invasive pests.” Dept. of Agricultural and Resource Economics, University of Maryland. Jan. 2020.

“Designing cost-efficient surveillance systems for early detection of invasive species.” Environmental Studies Department Colloquium, Salisbury University, MD. Feb. 2019.

“Harnessing enforcement leverage at the border to minimize biological risk from international live species trade.” School of Forestry, Yale University, New Haven, CT. Apr. 2017.

“Informing invasive species policy and management through economic analysis” Animal Conservation Seminar Series, Dept. of Wildlife and Fisheries, Texas A&M University, College Station, TX. Jan. 2017.

“Preventing biological invasions through strategic inspection design.” Triangle Resource and Environmental Economics Seminar Series, Raleigh, NC. Nov. 2015.

“Optimal control of spatial-dynamic processes: the case of biological invasions,” Policy and Economics Research Roundtable, Stanford University, CA. Jan. 2010.

“Optimal control of spatial-dynamic processes: the case of biological invasions,” Department of Resource Economics, University of Nevada, Reno, NV. Feb. 2010.

“Optimal control of spatial-dynamic processes: the case of biological invasions,” Resources for the Future, Washington D.C. Jan 2010.

*Invited conference presentations*

“Early Detection of New Pest Incursions to Cost-effectively Promote Forest Health.” Global Forest Health: Connecting Plants and People; Society for American Foresters 2022 National Convention, Baltimore, MD. Sept. 21, 2022.

“Bioeconomic models for invasive species management,” Ecological Society of America Annual Meeting. (Symposium: Effective Use of Models to Improve Field Management of Biological Invasions: Progress and Future Needs), Virtual. August 2021.

“Early detection of invasive species,” The Wildlife Society Meeting, Cleveland, OH. Oct. 2018.

“Fine-scale spatial targeting of surveillance to minimize costs of invasive species introduction across large landscapes” The Institute for Operations Research and the Management Sciences (INFORMS) Annual Conference, Nashville, TN. Nov. 2016.

“Optimal design of a nation-wide surveillance system for early detection of an invasive bark beetle.” The Institute for Operations Research and the Management Sciences (INFORMS) Annual Conference, Nashville, TN. Nov. 2016.

“Economics of invasive annual grass management on western U.S. rangelands.” Ecological Society of America Annual Meeting, Ft. Lauderdale, FL. Aug. 2016.

“Calibrating invasive species risk maps to predict establishment probability (for informing management)” The International Society for Ecological Modelling Global Conference, Baltimore, MD. May 2016.

“Import inspections: Harnessing enforcement leverage to prevent invasive species introductions” The Institute for Operations Research and the Management Sciences (INFORMS) Annual Conference, Philadelphia, PA. Nov. 2015.

“Designing cost-effective inspection programs and phytosanitary policy for reducing pest risk from live plant imports.” International Union of Forest Research Organizations World Congress, Salt Lake City, UT. Oct. 2014.

“Enhancing conservation incentives for private landowners.” Ecological Society of America Annual Meeting, Sacramento, CA. Aug. 2014.



“Optimal spatial control of biological invasions.” The Institute for Operations Research and the Management Sciences (INFORMS) Annual Conference, Minneapolis, MN. Oct. 2013.

“Integrating adaptive management and ecosystem services frameworks to improve natural resource management: an exploration of benefits and approach.” A Community on Ecosystem Services (ACES) and Ecosystem Markets Joint Meeting, Ft. Lauderdale, FL. Dec. 2012.

“Optimizing insect eradications through bioeconomic approaches (Optimal detection and eradication of insect pests),” Annual Meeting of the Entomological Society, San Diego, CA. Dec. 2010.

“Invasive species as spatial-dynamic processes: characteristics of optimal policies,” Economic Research Service, Program of Research on the Economics of Invasive Species Management Annual Meeting, Washington DC. Oct. 2009.

*Invited workshop presentations*

“Economics Perspectives on Managing Risk from Live Plant Imports.” The Nature Conservancy Workshop: Protecting Trees and Forests from Invasive Pests through Collaborative Solutions. Sept. 20, 2022.

“Integrating ecology and economics to manage bioinvasions: where, when, who, and how much?” Mathematical Biosciences Institute Workshop: Sustainable Management of Living Natural Resources, Columbus, OH, Nov. 2013.

II.E.2. Refereed Presentations

“Coastal land use change: agricultural adaptation to saltwater intrusion and sea level rise” Association of Environmental and Resource Economists Summer Conference, Tahoe, CA. May 2019.

“Coastal land use change: rural social-ecological response to saltwater intrusion and sea level rise” Southern Economics Association Annual Meeting, Washington, DC. Nov. 2018.

“Cost-effective targeting of live plant import exclusion for preventing forest pest establishment.” Southern Economics Association Annual Meeting, Washington DC. Nov. 2018.

“Cost-effective targeting of live plant import exclusion for preventing forest pest establishment” Society for Benefit-Cost Analysis Annual Meeting, Washington, DC. Mar. 2018.

“Optimal inspection of imports to prevent invasive pest introduction.” 100<sup>th</sup> Ecological Society of America Annual Meeting, Baltimore, MD. Aug. 2015.

“Designing cost-efficient surveillance strategies for early detection of invasive species.” Society for Benefit Cost Analysis, Washington, DC. Feb. 2013.

“Designing cost-efficient surveillance strategies for early detection of invasive species.” Association of Environmental and Resource Economists Summer Meeting, Banff, Canada. Jun. 2013.

“Designing cost-efficient surveillance strategies for early detection of invasive species.” American Applied Economics Association Annual Meeting, Washington, DC. Aug. 2013.

“Integrating adaptive management and ecosystem services frameworks to improve natural resource management: an exploration of benefits and approach.” International Congress for Conservation Biology, Baltimore, MD. Jul. 2013.

“Designing surveillance for unknown invaders: searching when you don’t know what you are searching for.” The Society for Conservation Biology, Oakland, CA. Jul. 2012.

“Optimizing insect eradications through bioeconomic approaches (Optimal detection and eradication of insect pests),” Southern Economics Association, Washington, DC. Jan 2012.

“Optimizing insect eradications through bioeconomic approaches (Optimal detection and eradication of insect pests),” International Congress for Conservation Biology, Auckland, New Zealand. Dec. 2011.

“Cooperation, spatial-dynamic externalities, and management of invasive species,” Agricultural and Applied Economics Meetings, Denver, CO. Jul. 2010.

“Optimal control of spatial-dynamic processes: the case of biological invasions,” Agricultural and Applied Economics Meetings, Denver, CO. Jul. 2010.

“Optimal control of spatial-dynamic processes: the case of biological invasions,” World Congress of Environmental and Resource Economists, Montreal, Canada. Jul. 2010.

“Modeling economic and ecological benefits of post-fire revegetation in the great basin,” Agricultural and Applied Economics Meetings, Denver, CO. Aug 2004.

#### II.E.3. Refereed Workshop Papers

“Cooperation, spatial-dynamic externalities, and management of invasive species,” Belpasso International Summer School in Environmental and Resource Economics, Belpasso, Italy, Sep 2010.

“Optimal control of spatial-dynamic processes: the case of biological invasions,” Occasional California Workshop on Environmental and Resource Economics, Santa Barbara CA, Oct 2009.

#### II.E.4. Workshops: invited participant

Workshop to Advance Theory in Ecology, National Science Foundation, Penn State University, State College, PA. Oct. 22-25, 2019.

Identifying Economic and Policy Frontiers at the Intersection of Resource, Regional and Rural Economics, Oregon State University, Portland, OR. Oct. 14, 2015.

Economic Valuation of Conservation Based Ecosystem Services. Co-sponsored by USDA and the Council on Food, Agricultural and Resource. Washington, DC. Jul. 21, 2015.

II.E.5. Other: Symposia and workshops co-organized

Integrating adaptive management and ecosystem services concepts to improve on-the-ground natural resource management – applications, USGS and Resources for the Future, Washington, DC. April 25-26, 2013.

Integrating adaptive management and ecosystem services concepts to improve on-the-ground natural resource management - theory, USGS and Resources for the Future, Washington DC. June 14-15, 2012.

10<sup>th</sup> Annual Bay Area Conservation Biology Symposium, University of California, Davis, CA. Apr 2008.

II.F. Professional and Extension Publications

II.F.1. Reports and Non-Refereed Monographs

Augustinus, B., V. Queloz, E G. Brockerhoff, R. Epanchin-Niell. 2022. Modelling for the Territorial surveillance of Switzerland. Federal Office for the Environment (FOEN), Switzerland. [Application of Epanchin-Niell’s CESAT model to inform forest pest surveillance in Switzerland]

Redford, Kent H., K. Campbell, A. Dayer, C. Dickman, R. Epanchin-Niell, T. Grosholz, D. Hallac, L. Richardson, M. Schwartz. 2017. Invasive animals in U. S. national parks: By a science panel. Natural Resource Report NPS/NRSS/BRD/NRR—2017/1564. National Park Service, Fort Collins, Colorado. <https://irma.nps.gov/Datastore/Reference/Profile/2247961>

II.F.2. Pre-print / Working Paper (*Not Work in Progress*)

Boyd, J. and R. Epanchin-Niell. 2017. “Private sector conservation investments under the Endangered Species Act: A guide to return on investment analysis.” Discussion Paper 17-11. Resources for the Future. Washington, D.C. March 2017.

Boyd, J.W. and R. Epanchin-Niell. 2015. “Best available science and imperiled species conservation: Challenges, opportunities, and partnerships US Fish and Wildlife Service Region 4 workshop summary: A business, government, and NGO dialogue.” RFF Discussion Paper 15-38. Resources for the Future. Washington, D.C. August 2015.

II.F.3. Policy Briefs

Epanchin-Niell, R.S. 2016. “Comments on draft methodology for prioritizing status reviews and accompanying 12-month findings on petitions for listing under the Endangered Species Act.” RFF Report. Resources for the Future, Washington, D.C. February 2016.

II.F.4. Refereed Extension Publications

Germino, M.J., M.W. Brunson, J.C. Chambers, R. Epanchin-Niell, G. Fuller, S.E. Hanser, S.P. Hardegree, T.N. Johnson, B.A. Newingham, M. Pellant, C. Sheridan, J. Tull. (2021). "[Restoration](#)." In Remington, T.E., Deibert, P.A., Hanser, S.E., Davis, D.M., Robb, L.A., and Welty, J.L., Sagebrush conservation strategy—Challenges to sagebrush conservation: U.S. Geological Survey Open-File Report 2020–1125, 327 pp. 203-221. <https://doi.org/10.3133/ofr20201125>.

Epanchin-Niell, R.S., Boyd, J.W., Macauley, M.K., Scarlett, Lynn, Shapiro, C.D., and Williams, B.K., 2018, "Integrating adaptive management and ecosystem services concepts to improve natural resource management— Challenges and opportunities" U.S. Geological Survey Circular 1439, 62 p., <https://doi.org/10.3133/cir1439>.

[Maryland Department of Planning](#). 2019. "State of Maryland Plan to Adapt to Saltwater Intrusion and Salinization," Dubow, J and D.H. Cornwell, primary authors, D. Andreasen, A. Staley, K. Tully, K. Gedan, and R. Epanchin-Niell, contributing authors.

#### II.F.5. Non-Refereed Extension Publications

Zwirn, M. and R. Epanchin-Niell. 2019. "[Can Cold Snaps Provide Relief from Invasive Species?](#)" *Resources*. vol. 200.

Epanchin-Niell, R., K. Gedan, J. Miller, K. Tully. 2018. "[Saltwater Intrusion and Coastal Climate Adaptation: Building Community Resilience](#)." *Resources*. vol. 197.

R. Epanchin-Niell. 2018. "[Economics and invasion management](#)." In Web Resource: Biological Invasions in Forests: An IUFRO Task Force by L. Blackburn and A. Liebhold.

Epanchin-Niell, R., C. Kousky, M. Walls, A. Thompson. 2017. "[Investing in Coastal Protected Lands under Threat from Sea-Level Rise](#)." *Resources*. vol. 194.

Boyd, J. and R. Epanchin-Niell. 2017. "[Voluntary Conservation: A Return on Investment Framework for the Private Sector](#)." *Resources*. vol. 194.

Epanchin-Niell, R.S., Springborn, M., A.R. Lindsay. 2016. "[Protecting against Invasive Species: A Risk-Based Approach to Live Plant Inspection](#)." *Resources*. vol. 193.

Lindsay, A.R., Springborn, M., R.S. Epanchin-Niell. 2016. "[Reducing Non-native species introductions with risk-based inspection of international trade](#)." *ARE Update*. Giannini Foundation of Agricultural Economics, University of California Vol. 20, No. 01. Pp. 9-11.

Epanchin-Niell, R.S., K. Rollins, M. H. Taylor. 2016. "[The Sage Grouse Listing Decision: How Changing Expectations Could Affect Private Conservation](#)." *Resources*. vol. 192.

Epanchin-Niell, R.S. and A. Liebhold. 2015. "[Infographic: The Benefits of Preventing Invasive Species: Timing Matters](#)." *Resources*. vol. 190.

Siikamäki, J.V., P. Vail, R. Epanchin-Niell, F. Santiago-Avila. 2015. "[Mapping the value of ecosystem services in Latin America and the Caribbean](#)." *Resources*. vol. 188.

Brockerhoff, E., R. Epanchin-Niell, J. Kean, and J. Turner. 2014. "[Weighing up the costs of surveillance trapping and the likely benefits from avoiding future pest damage.](#)" *Surveillance* 41:21-23.

Epanchin-Niell, R. 2014. "[Developing policies to combat invasive species.](#)" *Resources*. vol. 187.

Scarlett, L., R. Epanchin-Niell, and M. McKinney. 2013. "[The Endangered Species Act at 40: new tools for conservation.](#)" *Resources*. vol. 184.

Niell, R. S., C. E. Aslan, M. B. Hufford, J. D. Port, J. P. Sexton, T. M. Waring. 2007. "Yellow starthistle symposium: The need for regional approaches to invasion management in Sierra Nevada foothill rangelands." *Noxious Times* 8(3):4-5.

II.G. Sponsored Research and Programs – Administered by the Office of Research Administration (ORA)

II.G.1. Grants

Healthy Watersheds and the Chesapeake Bay College of Agriculture and Natural Resources Strategic Initiative: "Experiencing the Bay: Field Trip for Undergraduate Students Enrolled in AREC 200 I-series Chesapeake Bay Course" PI. \$4345.

Harry Hughes Center for Agroecology: "Adapting to increasingly saline soil in coastal Maryland." \$ 72,196. 2022-2024. PI: P. Mondal, Co-PIs: R. Epanchin-Niell. K. Gedan, J. Miller, K. Tully.

United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS): "*Improving predictive modeling and surveillance allocation with the Cost-Effective Surveillance Allocation Tool 2.0.*" \$125,848. July 23, 2021-July 22, 2022. Principal Investigator.

United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS): "*Improving predictive modeling and surveillance allocation with the Cost-Effective Surveillance Allocation Tool 2.0.*" \$124,816. May 23, 2021-May 22, 2022. Principal Investigator.

II.G.2. Contracts

II.G.3. Other

II.H. Completed Creative Works

II.H.1. Software and Applications

Cost-Effective Surveillance Allocation Tool (CESAT). Decision support tool for allocating monetary surveillance investments for early detection of invasive species. Developed by R. Epanchin-Niell. [provided to United States Department of Agriculture's Animal Plant and health Inspection Service]. Apr. 2019.

## II.I. Gifts, and Funded Research not administered by ORA

### II.I.1. Other (Grants, Cooperative Agreements, Contracts)

United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS): "Role of US public in pest detection." \$140,000. 2018-2019. Principal Investigator.

National Socio-Environmental Synthesis Center: "Advancing economic and ecological systems models and data: an expanded partnership with RFF." \$2.1 million. 2018-2020. Co-PIs: Boyd, J., R. Epanchin-Niell, K. Kroetz, Y. Kuwayama, M. Walls. (Epanchin-Niell amount: \$790,000).

Harry Hughes Center for Agroecology: "Building coastal resiliency: adapting cropping systems to saltwater intrusion." \$126,913. 2018-2020. PI: K. Tully, Co-PIs: K. Gedan, J. Miller, R. Epanchin-Niell. (Epanchin-Niell amount: \$25,094).

National Institute of Food and Agriculture - Resilient Agroecosystems in a Changing Climate Challenge Area: "Adapting agroecosystems to saltwater intrusion and mitigating nutrient losses from coastal farmlands." \$1,129,250. 2018-2023. PI: K. Tully, Co-PIs: R. Epanchin-Niell, K. Gedan, J. Miller. (Epanchin-Niell amount: \$203,735)

Biological Heritage New Zealand. "Optimising biosecurity investment and effort across all invasion phases." 2017- 2020. PI: E. Brockerhoff. (Epanchin-Niell amount: \$38,950).

United States Forest Service: "Reducing pest and pathogen invasion from live plant imports: linking social and ecological context to design effective policy." \$28,989. 2017-2022. Principal Investigator.

USDA-APHIS: "Development and transfer of Cost-efficient Surveillance Allocation Tool (CESAT)." \$140,600. 2017-2018. Principal Investigator.

National Science Foundation – Coupled Natural Human Systems: "CNH-L: Scale-dependent feedbacks among protected areas and surrounding socioecological systems." 2016-2021. \$1,305,006. PI: C. Aslan (P.I.), Co-PIs: R. Epanchin-Niell, M. Brunson, B. Sikes, S. Veloz. (Epanchin-Niell amount: \$219,124)

USDA-APHIS: "Risk-based sampling of imports: policy design for minimizing entry of pests and pathogens." 2014-2016. \$125,984. PI: M. Springborn. Co-PI: R. Epanchin-Niell. (Epanchin-Niell amount: \$48,000).

Electric Power Research Institute and National Council for Air and Stream Improvement: "ESA science & stakeholder group workshop." \$43,182. 2014-2016. Co-PIs: Boyd, J., R. Epanchin-Niell. (RFF amount: \$43,182; Epanchin-Niell amount: ~\$20,000).

USDA-APHIS: "Bioeconomic methods for cost-effective surveillance across heterogeneous regions." \$356,458. 2014 –2017. Principal Investigator.

Inter-American Development Bank: "Establishment of priority ecosystems for the biodiversity and ecosystem services initiative", 2013–2015. \$417,910. PI: J. Siikamäki, Co-

PIs: R. Epanchin-Niell, A. Blackman, R. Cooke. (RFF amount: \$417,910; Epanchin-Niell amount: ~\$100,000).

US Forest Service: “The live plant forest pest invasion pathway: economic impacts and benefits of US live plant imports.” \$54,995. 2012-2015. Co-PIs: R. Epanchin-Niell, A. Liebhold, (Epanchin-Niell amount: \$54,995).

National Socio-Environmental Synthesis Center: “Globalization of the live plant trade: Informing efficient strategies for reducing non-native pest invasion risk.” ~\$120,000. 2013-2017. Co-PIs: R. Epanchin-Niell and A. Liebhold.

InterAmerican Development Bank: “Preparation of biodiversity platform: regional assessment, emerging opportunities and proposed lines of action”. \$190,000. PI: A. Blackman, Co-PIs: J. Siikamäki, R. Epanchin-Niell. (RFF amount: \$190,000; Epanchin-Niell amount: ~\$50,000).

Texas A&M/Harte Institute: “Ecosystem services provided by Gulf of Mexico habitats: Tools, valuation, and application.” \$218,414. 2012-2014. PI: A. Krupnick. Co-PIs: Epanchin-Niell, R., Siikamäki, J. (RFF amount \$218,414; Epanchin-Niell amount: ~\$20,000).

US Geological Survey: “Science and economic valuation of ecosystem services in the framework of adaptive management.” \$200,000. 2011-2014. PI: M. Macauley. Co-PIs: J. Boyd, R. Epanchin-Niell. (RFF amount \$200,000; Epanchin-Niell amount: ~\$75,000).

New Zealand Forest Research Institute, Scion: “Cost benefit analysis of bark beetle and wood borer surveillance.” 2010-2012. (Epanchin-Niell amount: \$15,000).

USDA Economic Research Service, Program of Research on the Economics of Invasive Species Management. “Micro-behavior and the spatial-dynamics of invasions.” \$135,000. 2007-2009. PI: J. Wilen, PhD candidate: R. Niell.

## II.J.      Research Fellowships, Prizes and Awards

NSF Integrative Graduate Education and Research Trainee, Biological Invasions, UC Davis, 2004 - 2007.

Outstanding Graduate Scholar Fellowship, University of California, Davis, 2004-2005.

Outstanding Graduate Student, Dept. of Applied Economics and Statistics, U. of Nevada, Reno, 2003

## **III.      Teaching, Extension, Mentoring, and Advising**

### III.A.      Courses Taught

AREC 200: The Chesapeake Bay Ecosystem: Intersection of Science, Economics, and Policy (140 students), *I-series course*, Fall 2020, 2021, co-taught with Sara Lombardi (BSCI Department)

AREC 200: The Chesapeake Bay Ecosystem: Intersection of Science, Economics, and Policy (140 students), *I-series course*, Fall 2023.

Department of Resource Economics, University of Nevada, Reno, “Economics of Public Lands Resources” (3 units, undergraduate) Lecturer/ Sole Instructor (Jan–Jun 2004).

III.B.     Advising: Research or Clinical

III.B.1.    Doctoral

Xueting Pi, Agricultural & Resource Economics, Dept., University of Maryland, Committee Chair 2022-Present

Alexandre Perrault, Agricultural & Resource Economics, Dept., University of Maryland, Committee member 2021-Present

Brit Laginhas, North Carolina State University, Committee Member 2021-Present

Yixin Yang, Agricultural & Resource Economics, Dept., University of Maryland, Incoming student advisor/mentor, 2021-Present.

III.B.2.    Post-doctoral

Gwen Iacona, Resources for the Future, Co-Advisor. 2019-2020.

III.B.3.    Other Directed Research

*Graduate Research Assistants*

Alexandre Perrault, Agricultural & Resource Economics, Dept., University of Maryland, 2021-present

Xueting Pi, Agricultural & Resource Economics, Dept., University of Maryland, 2021-present

Youngho Kim, Agricultural & Resource Economics, Dept., University of Maryland, (w/ D. Newburn) 2021-present.

*Research Assistants*

Tyler Treakle (B.S.), Research Assistant, Resources for the Future, 2019-2021

Matt Ashenfarb (B.S.), Research Assistant, Resources for the Future, 2018-2021

Jessica Blakely (B.S.), Research Assistant, Resources for the Future 2017-2018

Jieyi Lu (B.S.), Research Assistant, Resources for the Future 2017-2018

Alexandra Thompson (M.S.), Research Assistant/Associate, Resource for the Future, 2014-present



### *Summer Interns*

Ryan Tarver, (Ph.D. Student, Utah State University), Summer Intern, Resource for the Future, 2021

Annabelle Stanley (B.S. student, Cornell University), Intern, Resources for the Future, 2019-2022 (senior honors thesis based on directed research).

Katie Wetstone (M.S. student, University of California, Berkeley), Summer Intern, Resources for the Future, 2019

Michael Black (Ph.D. student, Texas A&M), Summer Intern, Resources for the Future, 2019

Jessica Post (Ph.D. student, Univ. of Wyoming), Summer Intern, Resources for the Future, 2018, 2019

Cuicui Chen (Ph.D. student, Harvard University), Summer Intern, Resources for the Future, 2014

### III.C. Mentorship

#### III.C.1. Other

Mentor: Integrative Graduate Education and Research Traineeship, N.S.F. (2008-2009)

Panelist, Council on Food, Agriculture, and Resource Economics Summer Intern Breakfast Series, 2012, 2013, 2015, 2016, 2017. [professional career path advice for DC-based summer interns]

Presenter, Resources for the Future Junior Seminar Series, 2021.

### III.D. Professional and Extension Education

#### III.D.1. Guest Lectures

University of Calgary, [Haskayne School of Business](#). SEDV 613 - Energy Systems III: Planning and Energy Economics - Fall 2022. Oct. 25, 2022 Instructor of Record: Sara Hastings-Simon

InvasivesU, Foundations of Invasive Species Management Certificate Course, NAISMA, On Demand Online Professional Course. 2022

University of Maryland. Dept. of Agricultural & Resource Economics. Dissertation Prospectus Development. AREC 891/892. Sept 9, 2021. Instructor of Record: Erik Lichtenberg.

University of California, Davis, Conservation Biology (Undergraduate) (Feb 2008)

University of Nevada, Reno, Range and Forest Ecology (Undergraduate / Graduate) (May 2004)

University of Nevada, Reno, Mathematical Modeling in Ecology (Graduate) (Feb 2004)

III.D.2. Other – Extension Presentations, Trainings, Workshops, Events

*Invasive species*

“New pest detection across the US: the role of the public” USDA Interagency Research Forum on Invasive Species, Annapolis, CA. Jan. 2023 [invited presentation]

“The role of the US public in detecting new pest incursions.” North American Invasive Species Management Association Annual Meeting. Virtual due to COVID. Sept 17, 2021. [invited presentation].

“Integrating Economics, Ecology, and Human Behavior to Improve Invasive Species Management.” North American Invasive Species Management Association Annual Meeting. Oct. 5-8, 2020. Virtual due to COVID. [Closing Keynote -- Invited].

“Cost-effective resource allocation for early pest detection.” North American Invasive Species Management Association Annual Meeting. Oct. 5-8, 2020. Virtual due to COVID. [invited presentation].

“Designing cost-efficient surveillance systems for early detection of invasive species” 30th USDA Interagency Research Forum on Invasive Species, Annapolis, CA. Jan. 2020 [invited presentation]

“Informing cost-effective strategies for reducing pest risk from live plant imports” North American Invasive Species Management Association Annual Meeting, Saratoga Springs, NY. Sep. 2019 [invited presentation]

“Cost-Effective Surveillance Allocation Tool (CESAT).” USDA-APHIS-PPQ seminar. Raleigh, NC. Apr. 2019. [invited presentation]

“Cost-Effective Surveillance Allocation Tool (CESAT) training.” USDA-APHIS-PPQ. Raleigh, NC. Apr. 2019 [1.5 day training I led on the Cost-Effective Surveillance Allocation Tool that I developed and transferred to APHIS-PPQ]

“Informing cost-efficient strategies to reduce pest risk from live plant imports” International Symposium on Risk-Based Sampling, hosted by North American Plant Protection Organization’s (NAPPO), Baltimore, MD, Jun. 2017. [invited keynote presentation]

“Informing cost-efficient strategies to reduce pest risk from live plant imports” Presentation to the New York Invasive Species Advisory Council, May 2017. [invited webinar]

“Informing efficient strategies to reduce pest risk from live plant imports” 28th USDA Interagency Research Forum on Invasive Species, Annapolis, MD. Jan. 2017. [invited presentation]

“Economics of invasive species management” International Union of Forest Research Organizations Workshop: Biological Invasions in Forests. Shepherdstown, WV. Jul. 2016. [invited presentation]

“Bioeconomic modeling for allocating surveillance resources” The North American Forest Insect Work Conference. Washington, DC. Jun. 2016. [invited presentation]

“Surveillance resource allocation for early detection of European spruce bark beetle (*Ips typographus*).” USDA-APHIS-PPQ. Raleigh, NC. May 2016 [invited presentation]

“Bioeconomic methods for designing optimal invasive species surveillance.” USDA-APHIS-PPQ. Raleigh, NC. Aug. 2014. [invited presentation]

[Invasive Species: Impacts, Challenges, and Strategies for Management](#), RFF First Wednesday Seminar, Resources for the Future, Washington, DC. March 7, 2012. [co-organized public symposium; live and webcast; also moderated]

“Optimizing insect eradications through bioeconomic approaches (Optimal detection and eradication of insect pests).” USDA Interagency Research Forum on Invasive Species, Annapolis, MD. Jan. 2011. [invited presentation]

Yellow Starthistle Symposium, University of California, Davis, CA. Sep 2006. [co-organized stakeholder symposium]

#### *Species conservation*

A Conservation Vision for the Federal Endangered Species Act. University of California, Irvine School of Law Center for Land, Environment, and Natural Resources and the Environmental Policy Innovation Center. Virtual due to COVID. Oct 15-16, 2020. [invited workshop participant]

Advancing Outreach Effectiveness to Improve Conservation Practice Adoption. Foundation for Food and Agricultural Research and partners hosted workshop to improve public-private partnerships. Virtual due to COVID. Jan 26-28, 2021. [invited participant].

[Implementing Changes to the ESA: What Happens Next?](#) RFF Live. Resources for the Future, Washington, DC. December 12, 2019. [co-organized public symposium; live and webcast; also panelist]

Advocating for Improvements in Species Conservation. University of California, Irvine School of Law Center for Land, Environment, and Natural Resources and the Environmental Policy Innovation Center. Irvine, CA. Apr. 12, 2019. [invited workshop participant]

[Exploring the Future of the Endangered Species Act](#), Resources for the Future, Washington, DC. September 25, 2018. [public symposium panelist; live and webcast]

“To invest or not? Voluntary conservation under the ESA.” National Council for Air and Stream Improvement (NCASI) and Electric Power Research Institute (EPRI) members. Jan. 2017. [webinar]

Imperiled Species Conservation: Challenges, Opportunities, and Partnerships at the Regional Level Southeast Region – A Business, Government, and NGO Dialogue, Resources for the Future, Washington, DC. March 2-3, 2015. [co-organized workshop]

Best Available Science and Imperiled Species Conservation: Challenges, Opportunities, and Partnerships – A Business, Government, and NGO Dialogue, Atlanta, GA, July 9-10, 2014. [co-organized workshop]

[Species Conservation under the Endangered Species Act: Science, Partnerships, and Effectiveness](#), RFF First Wednesday Seminar, Resources for the Future, December 4, 2013. [co-organized public symposium; live and webcast; also moderated]

“The role of cooperation and private landowner incentives in species recovery.” Recovery under the U.S. Endangered Species Act, Issues in Ecology Workshop. Aug 30, 2013. [invited workshop and presentation]

“Cooperation, partnerships, and landowner incentives.” Roundtable on ‘The U.S. Endangered Species Act at 60’ in Coeur d’Alene Idaho, Oct 25, 2013. [invited roundtable presentation]

Habitat markets, Environmental Defense Fund, May 31, 2013. [invited workshop participant]

### *Saltwater intrusion in Chesapeake Bay*

2023 Saltwater Intrusion Stakeholder Meeting. Feb. 24, 2023. Princess Anne, MD. ~ 50 participants farmers, landowners, NRCS, MD state agencies (MDA, MDNR, MDE), land trusts. Also, presented “Risk mapping of saltwater intrusion in Maryland.”

“Socio-environmental perspectives on tidal wetland restoration in the Chesapeake Bay.” Integrating Wetlands into Agricultural Landscapes - NFWF Ag Networking Forum/Listening Session. Jan. 12, 2023. [Invited presentation and panelist; virtual]

“Risk mapping of saltwater intrusion in Maryland.” 2022 Saltwater Intrusion Stakeholder Meeting. Feb. 16, 2022. [Virtual; ~ 40 participants (farmers, landowners, NRCS, MD state agencies, land trusts); Presented research findings]

2022 Saltwater Intrusion Stakeholder Meeting. Feb. 16, 2022. [Virtual; ~ 40 participants farmers, landowners, NRCS, MD state agencies, land trusts; Led stakeholder policy and research discussion]

“Adapting to increasingly saline soil in coastal Maryland.” Harry Hughes Center for Agroecology. Jan 24, 2021. [Invited Research and Proposal Presentation to the Board.]

“Saltwater Intrusion in Coastal Agroecosystems: Soil Salinization, Sea Level Rise, and Agricultural Land Use Change.” Maryland Water Monitoring Council Annual Conference. Virtual due to COVID. Dec 2, 2021. [invited presentation]

“Risk mapping of saltwater intrusion in Maryland” Presented to Eastern Shore Land Conservancy. May 25, 2021. [presented research; discussed ESLC information needs]

Saltwater Intrusion on the Eastern Shore Stakeholder workshop. Virtual due to COVID. Feb 14, 2020. [presented research findings]

Saltwater Intrusion on the Eastern Shore Stakeholder workshop and public Q & A. Somerset County Extension Office, Princess Anne, MD. Feb 2020 [facilitated stakeholder discussion]

Saltwater Intrusion on the Eastern Shore Stakeholder workshop and public Q & A. Somerset County Extension Office, Princess Anne, MD. Apr 2019 [presented research findings]

Saltwater Intrusion on the Eastern Shore Stakeholder workshop. Princess Anne Civic Center, Princess Anne, MD. Feb 2018 [presented research findings]

#### **IV. Service and Outreach**

##### **IV.A. Editorships, Editorial Boards, and Reviewing Activities**

###### **IV.A.1. Reviewing Activities for Journals and Presses**

*Journal of Environmental Economics and Management; Theoretical Ecology; Ecological Applications; Journal of Environmental Management; Applied Economic Perspectives & Policy; Journal of Operational Research Society; Bioscience; Biological Invasions; Resource and Energy Economics; Proceedings of the Royal Society B; Journal of Applied Ecology; American Journal of Agricultural Economics; Risk Analysis, Conservation Letters; Environmental & Resource Economics; Biological Conservation; Current Forestry Report; Journal of the Association of Environmental and Resource Economists; Ecology Letters; Choices; Ecological Economics; WIREs Water; Frontiers in Ecology and the Environment; Proceedings of the National Academy of Sciences; Science; Optimal Control, Applications and Methods, Conservation Science and Practice; UCI CLEANR policy brief; Review of Environmental Economics and Policy, Conservation Biology, Ecological Applications, Ecological Economics, Conservation Letters, Ecological Applications, Ecological Economics, Journal of Environmental Management, Proceeding of the National Academy of Science, Biological Invasions, Journal of the Association of Environmental and Resource Economists, Review of Environmental Economics and Policy*

###### **IV.A.2. Reviewing Activities for Conferences**

Agricultural and Applied Economics Association Annual Meetings, 2011, 2012, 2014.

Association of Environmental and Resource Economists Summer Conference, 2016.

Allied Social Science Association Annual Meeting -- Association of Environmental and Resource Economists (AERE) Program Committee – Member: 2021, 2022; Chair 2023.

###### **IV.A.3. Reviewing Activities for Agencies and Foundations**

U.S. Forest Service. Review for Research Position Evaluation Panel for senior research scientist. 2018, 2020.

###### **IV.A.4. Other**

Member, Scientific Review Committee, National Socio-Environmental Synthesis Center, 2012-2015.

Israel Science Foundation, Grant Proposal Review, 2022, 2023

IV.B. Committees, Professional & Campus Service

IV.B.1. Campus Service

*Departmental*

Chair, Extension Committee, Aug 2022 – present

Member, Extension Committee, Aug 2021 – Jul 2022

Member, Diversity, Equity, Inclusions, and Respect Advisory Group, 2021

Member, Hiring Committee, Director of Administrative Services, Spring 2022

*College*

Member, AGNR Strategic Visioning effort for the Maryland Agricultural Experiment Station (MAES), Fall 2022- Spring 2023

Member, AGNR Strategic Initiative Undergraduate Focus Committee, Fall 2021

IV.B.2. Other Non-University Committees, Memberships, Panels, etc.

Member, Markov decision processes in non-autonomous socio-ecological systems working group, John Wesley Powell Center for Analysis and Synthesis, 2020-Present

Co-lead, Advancing behavioral modeling in socio-environmental models to inform policy working group, National Socio-Environmental Synthesis Center (with R. Wilson), 2018-2022.

Member, Global socioeconomic drivers of insect invasions working group, National Socio-Environmental Synthesis Center. 2018-2020.

Co-lead, Globalization of the live plant trade: Informing efficient strategies for reducing non-native pest invasion risk working group, National Socio-Environmental Synthesis Center (with A. Liebhold), 2013-2018.

Member, New York Invasive Species Research Institute's Advisory Board, 2017-present.

Member, Science Working Group for the Great Basin Landscape Conservation Cooperative, 2017-2018.

Member, U.S. National Park Service Invasive Animal Species Independent Science Panel, 2017.

Member, International Union of Forest Research Organizations' Task Force on Biological Invasions in Forests, 2015-2019.

Member, Developing decision tools to facilitate recovery planning under the Endangered Species Act working group, National Socio-Environmental Synthesis Center. 2015-2019.

Member, Timescales and the interplay between human response and management and ecological and ecosystem dynamics working group, National Socio-Environmental Synthesis Center. 2013-2016.

Member, Species recovery under the US Endangered Species Act working group, Ecological Society of America. 2013-2014.

Member, Council on Food, Agriculture, and Resource Economics Blue Ribbon Panel of Experts for Natural Resources and Environmental Issues, 2013-2017.

Member, Applying population ecology to strategies for eradicating invasive forest insects working group, National Center for Ecological Analysis and Synthesis. 2009-2011.

#### IV.C. Media Contributions

##### IV.C.1. Radio

[Nation Public Radio. 1A.](#) The Endangered Species Act: On the brink of extinction? By Joshua Johnson. 24 Jul 2018. [panelist]

##### IV.C.2. Digital Media [or online and print]

*The US Endangered Species Act and Biodiversity Conservation:*

[SESYNC](#) Podcast. Land Management Decision-Making. Hosted by Erin Duffy. [Podcast]

[New York Times.](#) Push to weaken law protecting at-risk wildlife by Coral Davenport and Lisa Friedman. Jul. 23, 2018 [quoted; front page]

[Miami Herald.](#) The Trump administration's assault on the Endangered Species Act by Daniel Ruth. 27 Jul 2018 [quoted]

[CNNMoney.](#) Some businesses want to change the law that saved grizzly bears and gray wolves by Talib Visram. 11 Aug 2018. [background interview]

*Invasive species:*

[National Parks Traveler.](#) Forest Keepers. By Kim O'Connell. Dec. 2021, [Interviewed and quoted]

[National Parks Traveler.](#) Traveler Special Report: Invasive Mammals and the National Parks. By Kim O'Connell. Nov. 2021, [Interviewed and quoted]

[Resources Radio.](#) It Takes a Village: Public Engagement in Invasive Species Detection. Hosted by Kristin Hayes Resources Radio. July 13, 2021. [Podcast interview]

[National Geographic](#). National parks are being overrun by invasive species by Rene Ebersole, 24 Jun 2020. [research covered]

[Newsweek](#). Rise in invasive species may lead to massive loss of global biodiversity by Aristos Georgiou, 15 Jul 2020. [research covered]

[Research in Action video series](#). Plants & pests by Elizabeth Herzfeldt-Kamprath, 12 Sep 2019. [research covered; video interview]

[PBS News Hour](#). Invasive animals pose ‘deep and immediate threat’ to U.S. national parks, study finds by Elisheva Mittelman. 12 Dec 2019 [research covered]

[BBC News](#). US national parks face 'crisis' over invasive animal species by Kelsey Vlamis. 3 Dec 2019. [research covered]

[CNN](#). America's National Parks are being overrun by rats, cats and feral hogs by Elizabeth Wolfe and Brian Ries. 4 Dec 2019. [research covered]

[New York Daily News](#). Feral cats, hogs and other invasive species invading national parks, report says by Joseph Wilkinson. 9 Dec 2019. [research covered]

[Newsweek](#). U.S. National Parks under 'deep and immediate threat' from feral cats, hogs, rats and other invasive species by Aristos Georgiou. 6 Dec 2019. [research covered]

*Saltwater intrusion and coastal adaptation:*

Matter of Fact with Soledad O’Brien “[Why rising waters are still a concern beyond the coasts.](#)” July 18, 2021. [research covered]

[Howard Center for Investigative Journalism](#). Driven by rising seas, the threats to drinking water, crops from saltwater are growing in U.S. By Bill Lambrecht and Gracie Todd. 23 Nov 2020 [research covered]

The Baltimore Sun. [Coastal farmers in Maryland and across Mid-Atlantic being driven off their land as salt poisons the soil](#) by Bill Lambrecht and Gracie Todd. 23 Nov 2020.

[ABC News](#). Coastal harm from invading saltwater ‘happening right now’ By Bill Lambrecht and Gracie Todd. 23 Nov 2020 [research covered]

[TEDx talk](#). Farming on the Fringe: Climate Change and Coastal Farms by Kat Tully. 9 Sp 2020. [research covered]

[Bay Journal](#). Saltwater intrusion laying waste to Delmarva farms as sea level rises by Jeremy Cox. 26 Mar 2019. [covered research team]

[delmarva now](#). Prepare for saltier future: Maryland warns farmers as sea levels rise by Jeremy Cox. 15 Jan 2020. [covered research team]



[Reuters](#) and [Thomas Reuters Foundation](#). Salty soil sends U.S. farmers, officials scrambling by Carey L. Biron. 25 Sep 2019. [covered research; quoted]

#### IV.C.3. Blogs

[BLM Sage-Grouse Land Use Plan Changes: A Recalibration or A Short-Sighted Economic Grab?](#) by R. Epanchin-Niell. Dec 19, 2018.

[Managing Invasive Species with the Help of Public Participation](#) by R. Epanchin-Niell. Aug 31, 2017.

[Coastal Protected Lands and Sea-Level Rise](#) by R. Epanchin-Niell, C. Kousky, A. Thompson, M. Walls. Jan 19, 2017.

[Pursuing Increased Transparency and Efficiency in Endangered Species Act Listing Decisions](#) by R. Epanchin-Niell. Apr 1, 2016.

[Greater Sage Grouse Conservation: Pre-listing Programs as a Repeated Game.](#) by R. Epanchin-Niell, K. Rollins, M. H. Taylor. Mar 7, 2016.

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*Featuring my research:*

[“Fighting for Inches” in the Southeast’s Struggle with Salt.](#) [Circle of Blue](#). Hannah Richter. Aug. 22, 2022

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[Risk, Data, and Plant Inspections: How an Interdisciplinary Science Team Informed a Policy Shift](#) by A. Gallagher and E. Herzfeldt-Kamprath, Sept 23, 2019

[Using Economic Analysis to Address Invasive Species Threats](#) by M. Zwirn, May 3, 2019.

IV.D. Community & Other Service

Math Day. Bannockburn Elementary School. 2018, 2019, 2020. [Co-organized all-day event for 560 students with 85 parent volunteers and 20+ math activities to share with students the joys of math and its usefulness in their daily lives.]