**Eric Vinson Lonsdorf**

Assistant Professor

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### **Education .**

B. A. Biology Carleton College1996

Ph.D. Ecology and Evolution University of Minnesota2004

### **Previous appointments .**

Program Director Inst. on the Environment at U.Minnesota 2016 – 2022

Visiting Asst. Professor Franklin & Marshall College 2013 – 2015

Conservation Scientist Chicago Botanic Garden 2011 – 2013

Director Urban Wildlife Institute, Lincoln Park Zoo 2008 – 2011

Landscape Ecologist Lincoln Park Zoo 2006 – 2008

Postdoctoral Researcher Northern Arizona University 2004 – 2006

Postdoctoral Researcher University of Minnesota 2004

### **Research interests .**

* Decision-relevant sustainability science
* Nature’s contributions to people (ecosystem services)
* Landscape ecology and spatial (GIS) modeling
* Structured decision making and decision analysis
* Natural resource management

### **Publications *(***[*Google Scholar Page*](https://scholar.google.com/citations?user=twfglOgAAAAJ&hl=en) *- current h-index: 34***) .**

*In revision*

Barak, R. S., P. L. Hawthorne, **E. V. Lonsdorf** and D. J. Larkin. Using computational methods to diversify restoration seed mixes. Ecosphere

*In Press or Published*

1. Aagard, K., **E. V. Lonsdorf** and W. Thogmartin. 2022*.* Effects of weather variation on waterfowl migration: lessons from a continental-scale generalizable avian movement and energetics model. Ecology and Evolution 12: e8617. <https://doi.org/10.1002/ece3.8617>
2. Guerry, A. D., J. R. Smith, Eric Lonsdorf, Gretchen C. Daily, Xueman Wang and Yuna Chun. 2021. “Urban Nature and Biodiversity for Cities.” Policy Briefing. Global Platform for Sustainable Cities, World Bank. Washington, DC. © World Bank.
3. Smith, D., A. Davis, C. Hitaj, D. Hellerstein, A. Preslicka, E. Kogge, D. Mushet, and **E. Lonsdorf**. 2021. The contribution of land cover change to the decline of honey yields in the Northern Great Plains. Environmental Research Letters 16:064050.
4. Hamel, P., A. D. Guerry, S. Polasky, B. Han, J. A. Douglass, M. Hamann, B. Janke, J. J. Kuiper, H. Levrel, H. Liu, **E. Lonsdorf**, R. I. McDonald, C. Nootenboom, Z. Ouyang, R. P. Remme, R. P. Sharp, L. Tardieu, V. Viguié, D. Xu, H. Zheng, and G. C. Daily. 2021. Mapping the benefits of nature in cities with the InVEST software. npj Urban Sustainability 1:1–9.
5. **Lonsdorf, E. V.,** C. Nootenboom, B. Janke and B. Horgan. 2021. Assessing urban ecosystem services provided by green infrastructure: Golf courses in the Minneapolis-St. Paul metro area. Landscape and Urban Planning 208: 104022. <https://doi.org/10.1016/j.landurbplan.2020.104022>.
6. Walston, L., Y. Li, H.M. Hartmann, J. Macknick, A. Hanson, C. Nootenboom, **E. Lonsdorf**, J. Hellmann. 2021*.* Modeling the ecosystem services of native vegetation management practices at solar energy facilities in the Midwestern United States. Ecosystem Services 47: 101227.
7. Wooley, S., D. Smith, R. Lindroth, S. Shuster, E. V. Lonsdorf and T. G. Whitham. 2020. Local adaptation and rapid evolution of aphids in response to genetic interactions with their cottonwood hosts. Ecology and Evolution 10: 10532-10542.
8. Morgan, D., W. Winston, C. E. Ayina, W. Mayoukou, **E. V. Lonsdorf**, and C. M. Sanz. 2020. Forest certification and the high conservation value concept: protecting great apes in the Sangha Trinational Landscape in an era of industrial logging. Pages 644-670. *In* Ross, S. R. and L. M. Hopper (eds.). Chimpanzees in Context: A Comparative Perspective on Chimpanzee Behavior, Cognition, Conservation, and Welfare. University of Chicago Press, Chicago, IL.
9. **Lonsdorf, E. V.**, I. Koh and T. Ricketts. 2020*.* Partitioning private and public benefits of crop pollination services. People and Nature 2: 811-820. https://doi.org/10.1002/pan3.10138
10. Cochrane, J. F., T. D. Allison, and **E. V. Lonsdorf.** 2020. Hedging against Uncertainty When Granting Permits for Mitigation. Pages 167 – 175. *In* Runge, M.C., S.J. Converse, J. E. Lyons, and D. R. Smith (eds.). Structured decision making: case studies in natural resource management. Johns Hopkins University Press, Baltimore, Maryland.
11. Hunt, V. M., M. G. Knutson, and **E. V. Lonsdorf.** 2020. Restoration of Wetlands in the Prairie Pothole Region. Pages 234 – 245. *In* Runge, M.C., S.J. Converse, J. E. Lyons, and D. R. Smith (eds.). Structured decision making: case studies in natural resource management. Johns Hopkins University Press, Baltimore, Maryland.
12. Ahlering, M., D. Carlson, S. Vacek, S. Jacobi, V. Hunt, J. Stanton, M. Knutson and **E. Lonsdorf.** 2020*.* Cooperatively improving tallgrass prairie with adaptive management. Ecosphere 11, e03095.
13. Douglas, M. R., D. B. Sponsler, **E. V. Lonsdorf** and C. M. Grozinger. 2020. Rising insecticide potency outweighs falling application rate to make US farmland increasingly hazardous to insects. *Scientific Reports 10: 1-11*.
14. Handler, A.\*, **E. V. Lonsdorf** and D. R. Ardia. 2020*.* Evidence for red fox (*Vulpes vulpes*) exploitation of anthropogenic food sources along an urbanization gradient using stable isotope analysis. Canadian Journal of Zoology 98, 79-87.
15. Cariveau, A. B. E. Anderson, K. Baum, J.Hopwood, **E. V. Lonsdorf**, C. Nootenboom, K. Tuerk, K. Oberhauser and E. Snell-Rood. 2019*.* Rapid assessment of roadsides as potential habitat for monarchs and other pollinators. Frontiers in Ecology and Evolution. doi.org/10.3389/fevo.2019.00386
16. Williams, N. M., R. Isaacs, **E. V. Lonsdorf**, R. Winfree and T. H. Ricketts. 2019. Building resilience into agricultural pollination using wild pollinators. Pages 109-134. *In* Gardner, S., S. J. Ramsden and R. S. Hails (eds.). Agricultural Resilience: Perspectives from Ecology and Economics. Cambridge University Press. Cambridge, UK.
17. Sponsler, D., C. M. Grozinger, C. Hitaj, M. Rundlöf, C. Botías, A. Code, **E. V. Lonsdorf**, A. P. Melathopoulos, D. J. Smith, S. Suryanarayanan, W. E. Thogmartin, N. M. Williams, M. Zhang and M. R. Douglas. 2019. Pesticides and pollinators: a socioecological synthesis. Science of the Total Environment 662: 1012-1027.
18. Kramer, A., B. Crane, J. Downing, J.L. Hamrick, K. Havens, A. Highland, S. Jacobi, T. N. Kaye, **E. Lonsdorf**, J. Ramp Neale, A. Novy, P. Smouse, D. Tallamy, A. White and J. Zeldin. 2019. Risks, rewards, and realities when selecting native plants for different planting contexts. Restoration Ecology 27: 470-476.
19. Nicholson, C., T. Ricketts, I. Koh, H. Smith, **E. Lonsdorf**, O. Olsson. 2019. Flowering resources distract pollinators from crops: model predictions from landscape simulations. Journal of Applied Ecology 56: 618-628.
20. Santymire, R., **E. Lonsdorf**, C. M. Lynch, D. E. Wildt, P. E. Marinari, J. S. Kreeger and J. G. Howard. 2019.Inbreeding causes decreased seminal quality affecting pregnancy and litter size in the endangered black-footed ferret (*Mustela nigripes*). Animal Conservation 22: 331-440. <https://doi.org/10.1111/acv.12466>
21. Aagaard, K. J., W. E. Thogmartin, and **E. V. Lonsdorf**. 2018. Temperature-influenced energetics model for migrating waterfowl. Ecological Modelling 378: 46–58.
22. Bolin, A., H. G. Smith, **E. V. Lonsdorf**, and O. Olsson. 2018. Scale-dependent foraging tradeoff allows competitive coexistence. Oikos 127: 1575–1585.
23. **Lonsdorf, E.**, C. A. Sanders‐Reed, C. Boal, and T. D. Allison. 2018. Modeling golden eagle-vehicle collisions to design mitigation strategies. The Journal of Wildlife Management 82: 1633–1644.
24. Morgan, D., R. Mundry, C. Sanz, C. E. Ayina, S. Strindberg, **E. Lonsdorf**, and H. S. Kühl. 2018. African apes coexisting with logging: Comparing chimpanzee (*Pan troglodytes troglodytes*) and gorilla (*Gorilla gorilla gorilla*) resource needs and responses to forestry activities. Biological Conservation 218: 277–286.
25. Williams, N. M., and **E. V. Lonsdorf**. 2018. Selecting cost-effective plant mixes to support pollinators. Biological Conservation 217:195–202.
26. Koh, I., **E. V. Lonsdorf**, D. R. Artz, T. L. Pitts-Singer, and T. H. Ricketts. 2017. Ecology and economics of using native managed bees for almond pollination. Journal of Economic Entomology 111: 16-25.
27. Kriss, M. R., J. Hellman, **E. Lonsdorf**, N. Springer, P. H. Kriss and M. Horster. 2017. A Geofinancial Engineering Initiative: Using real-time environmental data from satellites to move financial markets and improve climate outcomes. Journal of Environmental Investing 8: 129-159.
28. Allison, T. D., J. F. Cochrane, **E. Lonsdorf**, and C. Sanders-Reed. 2017. A Review of Options for Mitigating Take of Golden Eagles at Wind Energy Facilities. Journal of Raptor Research 51: 319–333.
29. Davis, A. Y., **E. V. Lonsdorf**, C. R. Shierk, K. C. Matteson, J. R. Taylor, S. T. Lovell, and E. S. Minor. 2017. Enhancing pollination supply in an urban ecosystem through landscape modifications. Landscape and Urban Planning 162: 157–166.
30. Flinn, K. M., H. A. D. Kuhns, J. L. Mikes, **E. V. Lonsdorf**, and J. K. Lake. 2017. Invasion and succession change the functional traits of serpentine plant communities. The Journal of the Torrey Botanical Society 144: 109–124.
31. Hunt, V. M., J. B. Fant, L. Steger, P. E. Hartzog, **E. V. Lonsdorf**, S. K. Jacobi, and D. J. Larkin. 2017. PhragNet: crowdsourcing to investigate ecology and management of invasive *Phragmites australis* (common reed) in North America. Wetlands Ecology and Management: 1–12.
32. Paukner, A., L. J. Wooddell, C. E. Lefevre, **E. Lonsdorf**, and E. Lonsdorf. 2017. Do capuchin monkeys (*Sapajus apella*) prefer symmetrical face shapes? Journal of Comparative Psychology 131: 73–77.
33. M’Gonigle, L. K., N. M. Williams, **E. Lonsdorf**, and C. Kremen. 2017. A tool for selecting plants when restoring habitat for pollinators. Conservation Letters 10: 105–111.
34. **Lonsdorf, E. V.**, W. E. Thogmartin, S. K. Jacobi, K. Aagaard, J. Coppen, A. Davis, T. Fox, P. Heglund, R. Johnson, T. Jones, K. Kenow, J. Lyons, K. Luke, S. Still and B. Tavernia. 2016*.* A generalizable energetics-based model of avian migration to facilitate continental-scale waterbird conservation. Ecological Applications 26: 1136-1153.
35. Koh, I., **E. V. Lonsdorf**, N. Williams, C. Brittain, R. Isaacs, J. Gibbs and T. H. Ricketts. 2016*.* Modeling the status, trends, and impacts of wild bee abundance in the United States. Proceedings of the National Academy of Sciences113: 140-145.
36. Hunt, V. M., S. K. Jacobi, J. J. Gannon, J. E. Zorn, C. T. Moore, and **E. V. Lonsdorf**. 2016. A Decision Support Tool for Adaptive Management of Native Prairie Ecosystems. Interfaces 46: 334–344.
37. Drum, R. G., C. A. Ribic, K. Koch, **E. V. Lonsdorf**, E. Grant, M. Ahlering, L. Barnhill, T. Dailey, S. Lor, C. Mueller, D. C. Pavlacky, Jr., C. Rideout and D. Sample. 2015. Strategic grassland bird conservation throughout the annual cycle: linking policy alternatives, landowner decisions, and biological population outcomes. PLoS One 10: e0142525.
38. Olsson, O. A. Bolin, H. Smith, and **E. Lonsdorf.** 2015. Modeling pollinating bee visitation rates in heterogeneous landscapes from foraging theory. Ecological Modelling 316: 133-143.
39. Hunt, V. M., S. K. Jacobi, M. G. Knutson, **E. V. Lonsdorf**, S. Papon, J. Zorn. 2015. Data management system for long-term natural resource monitoring and management projects with multiple cooperators. Wildlife Society Bulletin DOI: 10.1002/wsb.547.
40. Hipp, A. L., D. J. Larkin, R. Barak, M. L. Bowles, M. W. Cadotte, S. K. Jacobi, **E. Lonsdorf**, B. C. Scharenbroch, E. Williams, E. Weiher. 2015.Phylogeny in the service of ecological restoration. American Journal of Botany 102: 647-648.
41. Cochrane, J. F., **E. V. Lonsdorf**, T. D. Allison, and C. A. Sanders-Reed. 2015. Modeling with uncertain science: estimating mitigation credits from abating lead poisoning in golden eagles. Ecological Applications 25: 1518-1533.
42. Osnas, E. E., M. C. Runge, B. J. Mattsson, J. Austin, G. S. Boomer, R. G. Clarke, P. Devers, J. M. Eadie, **E. V. Lonsdorf**, and B. G. Tavernia. 2014. Managing harvest and habitat as integrated components. Wildfowl 0:305–328.
43. Hunt, V., S. Magle, C. Vargas, A. Brown, **E. V. Lonsdorf**, A. Sacerdote, E. Sorley and R. Santymire. 2014. Survival, abundance, and capture rate of eastern cottontail rabbits in an urban park. Urban Ecosystems 17: 547-560.
44. Ricketts, T. and **E. V. Lonsdorf.** 2013. Mapping the margin: comparing marginal values of tropical forest remnants for pollination services. Ecological Applications 23: 1113-1123.
45. Kennedy, C.K., **E. V. Lonsdorf**, et al (38 more authors). 2013. A global quantitative synthesis of local and landscape effects on native bee pollinators in agroecosystems. Ecology Letters 16: 584-599.
46. Radeloff, V., E. Nelson, A. Plantinga, D. Lewis, D. Helmers, J. Lawler, J. 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: 1036-1049.
47. Swanson, L., R. A. Sanyaolu, T. Gnoske, C. J. Whelan, **E. V. Lonsdorf** and N. J. Cordeiro. 2012. Differential response of nest predators to the presence of a decoy parent in artificial nests. Bird Study 59: 96-101.
48. Tallis, H.T., T. Ricketts, A.D. Guerry, S.A. Wood, R. Sharp, E. Nelson, D. Ennaanay, S. Wolny, N. Olwero, K. Vigerstol, D. Pennington, G. Mendoza, J. Aukema, J. Foster, J. Forrest, D. Cameron, K. Arkema, **E.** **Lonsdorf**, C. Kennedy, G. Verutes, C.K. Kim, G. Guannel, M. Papenfus, J. Toft, M. Marsik and J. Bernhardt. 2011. *InVEST 2.2.1 User’s Guide*. The Natural Capital Project, Stanford.
49. **Lonsdorf, E**., T. Ricketts, C. Kremen, R. Winfree, S. Greenleaf and N. Williams. 2011*.* Crop Pollination Services. *In* P. Kareiva, G. Daily, T. Ricketts, H. Tallis and S. Polasky (ed.). The Theory & Practice of Ecosystem Service Valuation in Conservation. Oxford University Press.
50. Lonsdorf, Elizabeth V., J. Chosy, I. Gilby, **E. Lonsdorf**, C. Murray, D. Travis, A. Pusey and J. Goodall. 2011. A retrospective analysis of factors correlated to chimpanzee (*Pan troglodytes schweinfurthii*) respiratory health at Gombe National Park. EcoHealth 8: 26–35.
51. Knutson, M., H. Laskowski, C. Moore, **E. Lonsdorf**, S. Lor, and L. Stevenson. 2010. Plans and Practices Harnessing the Power of Adaptive Management. The Wildlife Professional 4: 58-63.
52. Moore, C. T., **E. V.** **Lonsdorf**, M. G. Knutson, H. P. Laskowski, S. K. Lor. 2010. Adaptive Management in the U.S. National Wildlife Refuge System: Science-Management Partnerships for Conservation Delivery. Journal of Environmental Management 92: 1395-1402.
53. **Lonsdorf, E**., C. Kremen, T. Ricketts, R. Winfree, N. Williams, and S. Greenleaf. 2009. Modelling pollination services across agricultural landscapes. Annals of Botany 103: 1589–1600.
54. Nelson, E., G. Mendoza, J. Regetz, S. Polasky, H. Tallis, D. Cameron, K. M. A. Chan, G. C. Daily, J. Goldstein, P. M. Kareiva, **E. Lonsdorf**, R. Naidoo, T. H. Ricketts, and M. Shaw. 2009. Modeling multiple ecosystem services, biodiversity conservation, commodity production, and tradeoffs at landscape scales. Frontiers in Ecology and the Environment 7:4-11.
55. Polasky, S., .E Nelson, J. Camm, B. Csuti, P. Fackler, **E. Lonsdorf**, C. Montgomery, D. White, J. Arthur, B. Garber-Yonts, R. Haight, J. Kagan, A. Starfield, and C. Tobalske. 2008. Where to put things? Spatial land management to sustain biodiversity and economic returns. Biological Conservation 141: 1505-1524.
56. Bangert, R. K., **E. Lonsdorf**, G. M. Wimp, S. M. Shuster, D. Fischer, J. A. Schweitzer, G. J. Allan, J. K. Bailey, and T. G. Whitham. 2008. Genetic structure of a foundation species: scaling community phenotypes from the individual to the region. Heredity 100:121-131.
57. Nelson, E., S. Polasky, D. Lewis, A. Plantinga, **E. Lonsdorf**, D. White, D. Bael, 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 105:9471–9476.
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59. Kay, E. H., **E. Lonsdorf** and S. Pruett-Jones. 2007*.* Null models for population variation in morph frequencies in polymorphic damselflies. Animal Behaviour74*:* e1-e8.
60. Wagenius, S., **E. Lonsdorf**, and C. Neuhauser. 2007. Patch aging and the S-allee effect: Breeding system effects on the demographic response of plants to habitat fragmentation. American Naturalist 169:383-397.
61. Cronin, K. A., M. A. Mitchell, **E. Lonsdorf**, and S. D. Thompson. 2006. One year later: Evaluation of PMC-recommended births and transfers. Zoo Biology 25:267-277.
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64. 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 15:1387-1401.
65. Whitham, T. G., **E. Lonsdorf**, J. A. Schweitzer, J. K. Bailey, D. G. Fischer, S. M. Shuster, R. L. Lindroth, S. C. Hart, G. J. Allan, C. A. Gehring, P. Keim, B. M. Potts, J. Marks, B. J. Rehill, S. P. DiFazio, C. J. LeRoy, G. M. Wimp, and S. Woolbright. 2005. "All effects of a gene on the world": Extended phenotypes, feedbacks, and multi-level selection. Ecoscience 12:5-7.
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# External research support - grants, awards and contracts .

Active:

1. 7/1/2021 – 6/30-2024: USDA – AFRI - Aligning food production, solar development and ecosystem services: an assessment of economic and environmental potential for farmers, ranchers, and society. $499,282.
2. 2/25/2021-2/24/2025: USDA – AFRI (co-PI with Christina Grozinger) - FACT CIN: Beescape NexGen: Creating Decision Support Tools To Manage Bee Health And Ecosystems Through Transdisciplinary Action. $949,000.
3. 1/18/2021 – 12/31/2022: Environmental Defense Fund – Opportunities for cooperative Management of specialty crops for pollinators and pests. $37,500.
4. 11/1/2020 – 12/30/2021: American Wind Wildlife Institute – Mitigation for Golden Eagle Vehicle Collisions. $100,000.
5. 9/1/2020– 8/31/2023: USDA – AFRI (co-PI with Peter Hawthorne) - Robust incentive design for sustainable agricultural systems. $498,378.
6. 7/1/2018 – 6/30/2023: USDA – AFRI (co-PI with UMN’s Dan Cariveau) - Ecology and economics of pollinator habitat: Using a landscape-scale experiment to determine cost-effective restoration strategies for beneficial insects. $999,803

Past grants:

1. 1/1/2021-12/31/2022: Healthy Foods, Healthy Lives Institute (co-PI with Katey Pelican) - Advancing White Earth Food Sovereignty through Collective Analysis and Action Planning. $100,000.
2. 9/1/2021 – 6/30/2022: USGS National Climate Adaption Science Center: An ecosystem services approach to climate adaptation (co-lead with Steve Polasky and Becky Chaplin-Kramer). $211,117.
3. 1/1/2021 – 6/30/2022: Knoblach Family Foundation (co-PI with Taylor Ricketts) – Valuing and conserving pollinators in Texas’ working landscapes. $228,092.
4. 6/20/2020 – 6/30/2021: World Bank via Stanford University (co-PI with Anne Guerry) - Guangzhou Wetland Ecosystem Service Modeling. $35,696.
5. 7/1/19 – 6/30/22: California Department of Pesticide Regulation (co-PI with UC Davis’ Neal Williams) - Predictive models of pesticide exposure and potential risk to bees. $213,958.
6. 1/1/19 – 6/30/22: Minnesota Aquatic Invasive Species Research Center (led by UMN’s Gretchen Hansen) - Will property values cool as AIS heat up? $211,021.
7. 4/1/2018 – 3/30/2022: Foundation for Food and Agriculture Research (co-PI with Penn St’s Christina Grozinger) - Developing resources and tools for selecting and managing landscapes to promote healthy bee populations. $200,000 to U-Minnesota.
8. 4/1/2018 – 3/31/2022: USDA – AFRI (co-PI with Penn St’s Christina Grozinger) - Context is key: tools for adapting beekeeping practices to diverse landscapes. $969,006
9. 1/1/19 – 6/30/21: US Golf Association - Community Values of Golf Courses: From the Minneapolis-St. Paul Region to US cities. $249,470
10. 3/1/19 – 6/30/20: Minnesota Government Lessard-Sams Outdoor Heritage Fund - Measuring what matters: Co-developing metrics for assessing the full suite of benefits of LSOHF investments. $131,057
11. 1/1/19 – 12/31/19: Dow-DuPont and the Nature Conservancy - Improving Dow-DuPont’s Nature Scorecard. $59,901.
12. 11/1/17 – 10/31/18: Bureau of Land Management (co-PI with Stanford’s Rebecca Chaplin-Kramer) - The Natural Capital Project for BLM’s California Seed Strategy. $100,000
13. 1/1/18 – 6/30/18: USDA-Farm Services Agency - Evaluating the cost-effectiveness of CRP seed mixes for supporting wild bees. $46,833
14. 7/1/17 – 6/30/18: Minnesota Clean Water Council (co-PI with UMN’s Bonnie Keeler) - What is Clean Water Worth? Estimating Return on Investment from the Minnesota Clean Water Fund. $265,000
15. 4/1/17 – 6/30/18: United States Golf Association - The Natural Capital of Golf Courses. $141,000
16. 3/1/17 – 2/28/19: National Highway Cooperative Research Program (co-PI with UMN’s Karen Oberhauser) - Evaluating the Suitability of Roadway Corridors for Use by Monarch Butterflies. $36,317
17. 1/1/17 – 12/31/17: Association of Fish and Wildlife Agencies - Decision analysis to aid development of a coordinated, multi-state Monarch conservation plan. $23,850
18. 7/1/15 – 12/31/16: USDA-Economic Research Service (Co-PI with Miami University’s Amelie Davis) - *CRP Land Management and Pollinator Health.* $92,000
19. 9/1/14 – 8/31/19: National Science Foundation Collaborative Research (Co-PI with UMN’s Dan Larkin) - *Testing the effects of phylogenetic diversity on restoration outcomes in tallgrass prairie.* $318,738.
20. 5/1/14 – 5/31/16: Gulf Coastal Plains & Ozarks LCC (Co-PI with USGS’ Conor McGowan) - Grassland Habitat Management for Diverse Taxa and Stakeholders. $77,000.
21. 5/1/14 – 12/31/16: Contract with American Wind Wildlife Institute - *Development of options for golden eagle wind turbine compensatory mitigation.* $100,000.
22. 9/1/12 – 8/31/17: USDA-Specialty Crop Research Initiative (Co-PI with several others) - *Developing Sustainable Pollination Strategies for U.S. Specialty Crops,* $115,000 - total grant budget: $9,800,000.
23. 8/15/12 – 1/15/14: American Bird Conservancy - *Grassland bird population and habitat management in the East Gulf Coastal Plain,* $60,000.
24. 9/1/11 – 5/31/14: US Fish and Wildlife Cooperative Agreement - *Model Development to Support the Integrated Waterbird Management and Monitoring Program in the Central and Atlantic Flyways*, $185,000.
25. 9/1/09 – 8/31/13: National Science Foundation Collaborative Research - *Reassembling pollinator communities to promote pollination function at the landscape scale*, $206,601 – total grant budget: $708,235.
26. 7/1/09-10/1/11: Society for Conservation Biology Smith Postdoctoral Fellowship (awarded to my Postdoctoral Student) - *A Framework for Optimal Spatial and Temporal Resource Allocation for Large Scale Conservation Problems*, $140,000
27. 7/1/08 – 6/30/11: National Science Foundation Collaborative Research: Integrated *Dynamic Modeling of Ecosystem Services - Incentive-Based Policies, Land-Use Decisions and Ecological Outcomes*, total grant budget: $1,493,838.
28. 5/1/08 – 2/1/12: US Geological Survey and US Fish and Wildlife Grant - *Directing Succession through Adaptive Management in National Wildlife Refuges: Reed Canary Grass Control & Transition to Wetland Forests & Meadows*, $200,000.
29. 10/1/07 – 9/1/12: USFWS Cooperative Agreement: Applying Structured Decision Making and Adaptive Management to National Wildlife Refuges, $114,655.
30. 7/01/02 – 12/31/03: National Science Foundation Doctoral Dissertation Improvement Grant: *The Effect of Inbreeding on Nitrogen-use-efficiency*, $8,000

### **Decision support projects and tools** **.**

*Mapping food insecurity in Minneapolis and Minnesota* (on-going)

* + *Partners*: Minneapolis Food Council, Minnesota Management and Budget Office, McKinsey
  + Website: <https://hfhl.umn.edu/fooddashboard>
  + *Analysis objective:* Provide spatially explicit assessment of supply vs. demand for food from low-income households and those who’s need status has changed to pandemic.
  + *Role:* After unrest occurred in Minneapolis-St. Paul due to the death of George Floyd. I had our research team offer our services in spatial analyses to support need to assess access to food.
  + [Impact](http://environment.umn.edu/news/ione-researchers-work-to-map-local-food-insecurity/): City used assessment to request additional $1M in CARES funding

*Sourcing Native Plants for Use in Gardens (2019)*

* + *Partners*: Major botanic gardens in the United States (National Botanic Garden, Chicago Botanic Garden, Denver Botanic Garden, Mt. Cuba Center)
  + *Website*: [Sourcing native plants](https://ellipsoid-bamboo-w5r2.squarespace.com/)
  + *Tool objective:* Provide context-specific guidance on whether or not nativars are a good alternative to natives for home gardens.
  + *Role:* Faciliated workshiop of researchers from universities and botanic gardens, and developed tool’s first prototype

*Roadside habitat for monarchs prioritization tool (2019)*

* + *Partners*: Monarch Joint Venture
  + *Tool objective:* Provide state departments of transportation with a tool to help them prioritize where it is best to place monarch habitat along roadsides using an ArcGIS toolbox.
  + *Role:* Co-PI for project, developed the architecture of the tool and managed its development

*Beescape: a tool for pollinators and beekeepers (2019 - ongoing)*

* + *Partners*: Penn St. University – Center for Pollinator Research
  + Website: [https://*Beescape.org*](https://Beescape.org)
  + *Tool objective:* “Beescape allows users to select a specific location -- the apiary where they house their honey bee colonies, or their home garden, or their farm -- and obtain these landscape quality scores for the surrounding region, up to 5 kilometers away. Users can also examine the crops that are being grown in the areas around them.”
  + *Role:* Providing information on bee habitat modeling and experience with software development

*Biocultural fire management in Puu Waawaa Reserve, Hawaii* (2018)

* + *Partners*: University of Hawaii and Hawaii Department of Forestry and Wildlife
  + Tool objective: predict impacts on fire management on biodiversity protection as well as hunting and grazing opportunities on Hawaii’s Big Island
  + *Role:* Guiding project and developed decision support tool
  + *Analytic approach*: Portofolio optimization

*Designating lowland conifer old-growth for protection* (2017)

* + *Partner: Minnesota DNR*
  + *Role*: Developed decision support tool for Minnesota-DNR using microsoft excel
  + *Tool objective*: To determine optimal combination of protected and unprotected forests for biodiversity conservation and economic value in MN
  + *Impact*: DNR has used the tool to inform their prioritization and decisions

*Integrated Crop Pollination - Decision Support Tool* (2012-2018)

* + *Partners*: USDA, Xerces Society, Michigan St. University, UC-Davis, U. of Vermont
  + *Website:* [www.pollinationmapper.org](http://www.pollinationmapper.org)
  + *Role:* Co-managed development of the tool and software company
  + *Tool objective*: “an interactive decision tool to help inform grower’s choice of pollination strategies for their farms.”
  + *Analytic approach*: Scenario comparisons

*Integrated Valuation of Ecosystem Services and Tradeoffs-InVEST* (2007-current)

* + *Partners*: Natural Capital Project
  + *Website*: <https://www.naturalcapitalproject.org/invest/>
  + *Role*: Co-developed pollination services tool and Urban InVEST
  + *Tool objective*: Integrates ecosystem service metrics into land use planning

*Multi-state monarch habitat conservation and restoration planning* (2015-2018)

* + *Role*: Developed decision support tool for US Fish and Wildlife and state management partners of the Monarch Joint Venrture using microsoft excel
  + Goal is to provide states with a tool to develop coordinated management plans
  + Uses “greedy algorithm” to determine which coutnies and land use sectors could most effectively improve monarch population

*Integrated Waterbird Monitoring and Management Program* (2007-2014)

* + <http://iwmmprogram.org/>
  + *Role*: Led initial Structured Decision Making workshops, developed initial decision support models and co-developed program with USFWS and partners
  + *Tool objective:* Mission of the program is to: “aid in the acquisition, restoration, and enhancement of wetlands for non-breeding waterbirds by providing managers with a framework and tools to guide their management, evaluate the outcomes of their efforts, and incorporate collective learning to improve decision-making”

*Grassland Monitoring and Management* (2006-present)

* + *Partners*: US Fish and Wildlife Service, Minnesota DNR and the Nature Conservancy
  + *Website*: Short url - <https://goo.gl/cWqgvX>
  + *Role*: Originated idea for and managed development of adaptive management tool
  + *Objective:* Team’s goal is to “secure the future of high quality remnant prairie ecosystems by effectively managing invasive species”
  + *Impact:* Partners are continuing to use it and working on “double-loop” learning

*Central hardwood invasive species monitoring and management* (2010-2015)

* + *Partners*: *US Fish and Wildlife Service*
  + *Role:* Led structured decision making workshop and developed spatially-explicitation prioritization tool for invasives species
  + *Objective*: to prioritize monitoring and control of 42 forest-adapted invasive plant species on refuge lands

*Wetland Sediment Management* (2006-2017)

* + *Partners*: US Fish and Wildlife Service – Region 3
  + Website: short url - <https://goo.gl/cWqgvX>
  + *Role*: Developed decision support tool framework and managed development of adaptive management tool for
  + *Objective:* to restore wetlands as quickly and effectively as possible

### **Technical reports .**

Olander, L., K. Bagstad, G. W. Characklis, P. Comer, M. Effron, J. Gunn, T. Holmes, R. Johnston, J. Kagan, W. Lehman, **E. V. Lonsdorf** and others. 2017. Data and Modeling Infrastructure for National Integration of Ecosystem Services into Decision Making: Expert Summaries. NESP WP.

Lesmeister, D.B., S.M. Blomquist, **E.V. Lonsdorf**, D. Wood, P.J. Williams, B. Pendley, K.E. Mangan, and B.A. Walker. 2014. Forest invasive adaptive management on National Wildlife Refuge lands in the Central Hardwood Region. Pp. 22-35. In: J.W. Groninger, E.J. Holzmueller, C.K. Nielson and D.C. Dey, editors. Proceedings of the 19th Central Hardwood Forest Conference. General Technical Report NRS-P-142. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station.

Koch, K., S Lor , **E. Lonsdorf** , E. Grant , M. Ahlering, L. Barnhill, T. Dailey , R. Drum, M. Knutson, C. Mueller , D. Pavlacky , C. Ribic , C. Rideout , D. Sample , D. C. Brewer , M. Runge. 2012. Application of Structured Decision Making to Deliver Grassland Bird Conservation throughout the Eastern and Central United States. Structured Decision Making Workshop, September 12-16, 2011. National Conservation Training Center, Shepherdstown, WV, USA.

Lor, S., J. Casey, **E. Lonsdorf**, M. Seamans, M. Anderson, C. Chambers, A. Chmielewski, D. Granfors, L. Hinds, K. Holcomb, D. C. Brewer, M. C. Runge. 2008. Habitat Management for Multiple Wetland Bird Objectives on National Wildlife Refuges. Structured Decision Making Workshop, July 21-25. National Conservation Training Center, Shepherdstown, WV, USA.

Laskowski, H., J. Stanton, **E. Lonsdorf**, J. Lyons, S. Brown, J. Coppen, F. Durbian, T. Jones, T. Leger, A. Milliken, M. Seamans, D. C. Brewer, M. C. Runge. 2008. Application of Structured Decision Making to Assess Multiple Scale Monitoring Needs for Waterbird Management. Structured Decision Making Workshop, January 28 – February 1. National Conservation Training Center, Shepherdstown, WV, USA.

Alanen, M. I., C. L. Crawford, **E. Lonsdorf**, P. J. Barrett, J. E. Scott, C. P. Wilcox, D. C. Brewer, A. M. Starfield, M. C. Runge. 2007. Mt. Graham Red Squirrel Case Study. USFWS/USGS Structured Decison Making Workshop: Rapid Prototyping. National Conservation Training Center, Shepherdstown, WV, USA.

**Lonsdorf, E.**, J. M. Earnhardt, M. Di Bitetti, C. de Angelo, A. Paviolo, L. Faust. 2007. Spatially-explicit population viability analysis of jaguars (*Panthera onca*) in the Misiones Province, Argentina. Report for the National Parks Administration of Argentina.

Coppen, J. L., P. Heglund, S. Delehanty, T. Fox, R. Johnson, M. T. Jones, K. Kenow, **E. Lonsdorf,** W. Thogmartin. 2007. Waterfowl Migration Case Study. Structured Decision Making Workshop, March 25-29, LaCrosse, WI.

### **Structured decision making consultations and workshops \_**

*March 2007* – Waterfowl migration (Onalaska, WI) – NCTC’s very first SDM workshop

*July 2007* – Mt. Graham Red Squirrel (Endangered Species 5-yr review)

*January 2008* - Assessing Multi-scale Monitoring Needs for Waterbird Management

*July 2008* - Managing for Multiple Wetland Bird Objectives on National Wildlife Refuges

*September 2011* - Developing a Landscape Scale Framework for Integrated Grassland Bird Conservation and Monitoring

*August 2014* – Louisiana pine snake reintroduction and captive rearing (Starkville, MN)

*May 2016* –Head coach – four teams (Chicago, IL)

*August 2017 –* Lowland Conifer Old Growth Forest Management (St. Paul, MN)

*June 2018* – Head coach – four teams (Honolulu, HI)

### **Professional activities­­­­­­­­­­­­­­­­­** .

Co-lead the Livable Cities program of the Natural Capital Project

Member of research oversight committee for project funded by Genome Canada - Sustaining and securing Canada’s honey bees using ‘omic tools: 2017-2019

Peer-Reviewer:

*Biological Conservation,* *Conservation Biology,* *Ecology Letters, Ecological Applications,* *Conservation Genetics*, *Journal of Applied Ecology*, *Landscape and Urban Planning,* *Proceedings of the National Academy of Sciences*, *Natural Resource Modeling,* *Mediterranean Ecology, Oikos, Science*

**Teaching .**

**Franklin and Marshall College -** Visiting Assistant Professor

Introduction to Biostatistics - Fall 2013, 2014

Ecosystem Services – Fall 2014

Ecology, Evolution and Heredity – Spring 2014, 2015

**USFWS - National Conservation Training Center**

*Scientific Principles for Endangered Species Conservation – February 2007*

*Principles of Modeling for Conservation Planning and* Analysis – October 2005

**University of Illinois-Chicago**

Landscape Ecology and Anthropogenic Process Seminar for Graduate Students – 2008, 2009 and 2010.

**University of Minnesota**

*Landscapes, conservation, ecology and economics* – Spring 2003

- Organized an interdisciplinary graduate-faculty seminar – Spring 2003

*Spatial community genetics: ecological and evolutionary processes across space*

- Developed and led a graduate-faculty seminar – Spring 2002

**Teaching Assistant**

*Plant Interactions with Animals and Microbes*, Fall 2000, Fall 2001

- Developed and taught a “writing-intensive” recitation for upper-level undergraduates and beginning graduates

*Decision Analysis*, Winter 2000

- Mentored graduate students in the creation and use of models as tools for making complex conservation decisions

*Introduction to Evolution*, Fall 1999

- Created and taught lab activities for upper-level undergraduates

*Introduction to Ecology* for non-majors, Summer 1999

- Led recitation discussions for undergraduates

*Introduction to Ecology and Evolution*, Fall 1998, Winter 1999, Spring 1999

- Taught lab activities for upper-level undergraduates

### **Mentoring/advising** **.**

**Postdoctoral Research Associate Advisor**

Sarah Cusser (2021) – Co-advised with Taylor Ricketts

Insu Koh (2013-2017) – Funded by USDA-SCRI and co-advised with Taylor Ricketts

Christina Kennedy (2009-2011) – Funded by National Science Foundation Grant –currently a Senior Scientist for The Nature Conservancy

Sarah Jacobi (2009-2011) – Funded by Smith Fellowship from Society for Conservation Biology – currently a full-time consultant working at the Chicago Botanic Garden

**Student Advisory Committee Member**

Victoria Hunt (2011 – 2016) – PhD student, University of Illinois-Chicago

Patrick Farrell (2012 – 2015) Master’s student, Auburn University

Becky Tonietto (2010-2015) – PhD student, Northwestern University

Wes Glisson (2011-2012) – Master’s Student, Northwestern University

Christine Doumoulin (2008-11) – Master’s Student, Northwestern University

Fusun Ozer (2008-10) – PhD student, University of Illinois-Chicago

Jennifer Moore (2010-11) – Undergraduate Senior Thesis, Northwestern University

### **Honors** **.**

Best Poster at American Zoo and Aquarium Annual Conference (“Modeling to Support Avian Influenza Risk Management within Zoos”) – 2007

The Nature Conservancy Smith Fellow – semi-finalist, 2003

National Science Foundation Doctoral Dissertation Improvement Grant, 2002 – 2003

##### Minnesota Center for Community Genetics graduate fellowship, 2002-2003

National Science Foundation pre-doctoral fellowship – Honorable Mention, 1998

University Of Minnesota EEB graduate fellowship, 1997-1998

National Merit Scholar, 1992 – 1996

### **Presentations** **.**

**Invited**

2021 North American Pollinator Protection Campaign; on-line; keynote

2020 International Entomological Congress; on-line

2019 Ecosystem Services World Conference; Hanover, Germany

North American Golf Innovation Symposium; Tokyo, Japan

Natural Capital Project Symposium; Stanford University

Society for Rangeland Management; Pollinator Conservation Symposium

2018 Ecology Department Seminar; Penn St. University

2017 Biology Department Seminar; Franklin & Marshall College

Biology Department Seminar; Carleton College

North American Golf Innovation Symposium; Vancouver, BC, Canada

2016 S3 RCN workshop speaker, sponsored by Harvard Forest and Gund Institute

Landscape Ecology Annual Meeting Symposium; Portaland, OR

Natural Resource Management Dept Seminar; Iowa St University

2015 Gund Institute for Ecological Economics Seminar; University of Vermont

Entomology Department Seminar; Penn St University

2014 Biodiversity and Conservation Science Department Seminar; Lund University

Entomology Department Seminar; U. C. Davis

2013 Ecology and Evolution Department Seminar; Rutgers University

2nd Inter. Conference on Pollinator Biology, Health and Policy: Penn State University

Eastern Branch of Entomological Society Meeting

2012 Entomology Department Seminar; University of Wisconsin

2011 Biology Department Seminar; Carleton College

2010 Plant Biology and Conservation Department Seminar; Northwestern University

Status and Trends of European Pollinators (STEP); Annual Research Meeting

2009 Ecology and Evolutionary Biology Department Seminar; Kansas State University

2004 International Entomological Congress Meeting Symposium

**Contributed**

2021 Innovate4Cities

2021 The Nature of Cities Festival

2015 International Association of Landscape Ecologists Annual Meeting

2013 Ecological Society of America Annual Meeting

2012 Ecological Society of America Annual Meeting

2011 Wildlife Society Annual Meeting

2010 Wildlife Society Annual Meeting

2009 Wildlife Society Annual Meeting

2008 Ecological Society of America Annual Meeting

2007 Association of Zoos and Aquariums Annual Meeting

2006 Society of Conservation Biology Annual Meeting

2005 Society of Conservation Biology Annual Meeting

2003 Society of Conservation Biology Annual Meeting

2002 American Naturalist Annual Meeting

2001 Ecological Society of America Annual Meeting