

BRAEDEN VAN DEYNZE

Curriculum Vitae
(Current as of June 2021)

CONTACT INFORMATION

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EDUCATION

Ph.D., Agricultural, Food, and Resource Economics, Michigan State University, 2020

Committee: Scott M. Swinton (chair), Frank Lupi, David A. Hennessy, Trey Malone

Dissertation: “To Spray or Not to Spray: The Economics of Weed and Insect Management Under Evolving Ecological and Social Conditions” (Dept. Outstanding Doctoral Dissertation Award, 2020)

B.S., Economics, Gonzaga University, 2015

B.A., Biology, Gonzaga University, 2015

EMPLOYMENT

Postdoctoral Research Associate, School of Marine and Environmental Affairs, University of Washington (on contract with Northwest Fisheries Science Center, National Oceanic and Atmospheric Administration), January 2020-Present

- Developed cost studies of salmonid habitat conservation plans in the Pacific Northwest used in decision-support tools
- Estimated econometric models of project costs, providing insight into cost drivers and generating cost predictions with minimal ex-ante data (i.e. no field surveys) for use in conservation planning
- Integrated biological, hydro-geological, and socio-economic datasets with project records using GIS and data science tools (R, QGIS)
- Reviewed scientific literature for appropriate planning models, identified gaps, and adapted existing methods to address specific resource management needs for ESA-listed and culturally-important species (salmonids)
- Coordinated a multi-disciplinary team of ecologists, economists, and geographers across university departments and federal agencies (NOAA Fisheries)
- Consulted with stakeholders (tribal agencies, environmental NGOs incl. The Nature Conservancy) and resource managers (federal, state, and local level) to ensure results are communicated and tools are developed to meet pressing policy needs (manager-focused science)
- Prepared grant proposals for external funding, including assembling teams of collaborators from universities, federal agencies, and tribal governments (over \$600k in invited proposals pending or in preparation as co-PI [1] and Lead PI [1])
- Recognized regionally as an expert in fish passage planning and policy, with invitations to speak at conferences, before funding boards, and in guest lectures, within a year of beginning work in the system

- Prepared manuscripts for publication in peer-reviewed scientific journals (one manuscript in prep, two manuscripts in planning stages)

Graduate Research Assistant, Kellogg Biological Station – Long-Term Ecological Research Program and Dept. of Agricultural, Food, and Resource Economics, Michigan State University, August 2015-December 2019

- Led the design, deployment, data entry, and analysis of a mail survey of over 10,000 farmers across four Corn Belt states
 - Recruited stakeholders and conducted pre-testing interviews to ensure instrument validity
 - Vetted and contracted with vendors to ensure delivery of survey materials (questionnaire booklets, envelopes, etc.)
- Hired, trained, and managed a team of eight (8) undergraduate research assistants
 - Developed data-entry protocols, working with research assistants to improve workflow on-the-fly (data-entry completed three weeks ahead of schedule and over \$1k under-budget)
 - Survey resulted in multiple peer-reviewed publications and contributed data in support of several dissertation and thesis chapters
 - Success of survey has led to a continuation in subsequent years under new management, repeating initial methods to form a farmer panel
- Constructed and analyzed bio-economic datasets with panel data methods
 - Linked pesticide application data from soybean and corn growers throughout the country (continental-scale) to biological data (surveys of herbicide resistant weeds, surveys of butterfly populations) to measure feedbacks between ecosystems and human activity
 - Measured the impact of insecticide seed treatments and glyphosate herbicide systems on butterfly populations (over a dozen species, incl. Eastern Monarchs) relative to historically-dominant systems (foliar applications, non-glyphosate herbicides)
 - Measured impact of herbicide resistant weeds on the use of tillage practices
 - Presented results to academic, government, and public audiences at conferences, workshops, and in the popular press
 - Prepared manuscripts for publication in peer-reviewed academic journals (one published, one draft in prep for submission)
- Mentored multiple students at the graduate and undergraduate level in independent research
 - Masters student (co-advised with supervisor) won multiple awards for research quality, including departments Outstanding Thesis
- Co-author on regularly cited economic history of field crop weed control methods in the United States

Instructor, Dept. of Agricultural, Food, and Resource Economics, Michigan State University, August 2018-December 2018

- Instructed EEM255: Ecological Economics, an undergraduate course, as instructor of record (69 students)
- Course provided an overview of topics in environmental economics from an ecological lense
- Developed original course material for bi-weekly lectures while staying on course for degree completion
- Students included diverse majors including business, environmental sciences, biology, and agriculture

Research Intern, National Parks Conservation Association – Northwest Regional Office, May 2015-August 2015

- Prepared a report on the impact of funding shortfalls (deferred maintenance backlog) at Olympic National Park on ecosystems and local communities
 - Interviewed over a dozen park employees, scientists, hospitality professionals, and local stakeholders to identify specific funding needs and impacts
 - Provided expert consultation for members of congress (from both parties) and park leadership on funding priorities
 - Arranged transportation, food, and lodging for independent overnight site visits
 - Resulting report cited in local and regional media in support of expanded park funding and used in lobbying efforts in Washington, DC, playing a critical role in the passage of the bipartisan Great American Outdoors Act in 2020
- Represented the NPCA at outreach events and in meetings with partner organizations while coordinating on regional priorities (grizzly bear re-introduction, mountain goat management, soundscape policy, etc.)

PEER-REVIEWED PUBLICATIONS (4, †*advisee co-author*)

Luther, Z. †, S.M. Swinton, and **B. Van Deynze**. 2021. “What Incentives Are Needed to Encourage Farmers to Plant Biodiversity-Promoting Prairie Strips?” *Land Economics*. Conditionally accepted.

Van Deynze, B., S.M. Swinton, and D.A. Hennessy. 2021. “Are Glyphosate-Resistant Weeds a Threat to Conservation Agriculture? Evidence from Tillage Practices in Soybean.” *American Journal of Agricultural Economics*. Early access.

Luther, Z. †, S.M. Swinton, and **B. Van Deynze**. 2020. “What Drives Voluntary Adoption of Farming Practices that Can Abate Nutrient Pollution?” *Journal of Soil and Water Conservation* 75(5): 640-650.

Swinton, S.M. and **B. Van Deynze**. 2017. “Hoes to Herbicides: Economics of Evolving Weed Management in the United States.” *European Journal of Development Research* 29(3): 560-574.

WORKS IN PROGRESS

Van Deynze, B., R. Fonner, B. Feist, S. Jardine, and D. Holland. “Econometric Cost Models for Restoration Planning: An Application to Fish Passage Barriers in the Pacific Northwest.”

Van Deynze, B., S.M. Swinton, D.A. Hennessy, and L. Ries. “Rapid Adoption of Neonicotinoid Seed Treatments Suppresses Butterfly Population and Diversity Across Agricultural Landscapes in the Upper Midwest, USA.”

Van Deynze, B., T. Malone, and S.M. Swinton. “The Value of Timeliness: How Soybean Farmers Choose to Custom Hire.”

CONFERENCE PRESENTATIONS (22, **presented by co-author*)

Van Deynze, B., R. Fonner, B. Feist, S. Jardine, and D. Holland. “Econometric Cost Models for Restoration Planning: An Application to Fish Passage Barriers in the Pacific Northwest.”

1. Selected presentation at Camp Resources XXVII, Asheville, NC, August 9-10, 2021.
2. Selected presentation at Northeastern Agricultural and Resource Economics Association Annual Meeting, Virtual, June 13-15, 2021.

3. Selected presentation at Association of Environmental and Resource Economics Summer Conference, Virtual, June 2-4, 2021.
4. Selected presentation at Washington Recreation and Conservation Office's Salmon Recovery Conference, Virtual, April 28-30, 2021.

Luther, Z., S.M. Swinton, and **B. Van Deynze**. "What Incentives Are Needed to Encourage Farmers to Plant Biodiversity-Promoting Prairie Strips?"

1. Selected presentation at University of Michigan Sustainability and Development Conference, Ann Arbor, MI, October 11-14, 2019. *
2. Selected paper presented at the Heartland Environmental and Resource Economics Workshop. Urbana, IL, September 28-29, 2019. *
3. Presentation at the University of Michigan/Michigan State University Energy and Environmental Economics Day. East Lansing, MI, August 21, 2019. *

Van Deynze, B., S.M. Swinton, and L. Ries. "The Butterfly Effect: Do Farms Do Harm?"

1. Selected paper presented at the Heartland Environmental and Resource Economics Workshop. Urbana, IL, September 28-29, 2019.
2. Selected paper presented at the Agricultural and Applied Economics Association annual meeting. Atlanta, GA, July 21-23, 2019.

Luther, Z., S.M. Swinton, and **B. Van Deynze**. "What Drives Voluntary Adoption of Farming Practices that Can Abate Nutrient Pollution?"

1. Selected paper presented at the Agricultural and Applied Economics Association annual meeting. Atlanta, GA, July 21-23, 2019. *
2. Poster presented at 2019 Fate of the Earth Symposium. East Lansing, MI, April 13, 2019. *
(*First Place, Poster*)
3. Poster presented at Kellogg Biological Station – Long-Term Ecological Research All-Scientist Meeting. East Lansing, MI, October 6, 2017.
4. Presentation at the University of Michigan/Michigan State University Energy and Environmental Economics Day. Ann Arbor, MI, August 23, 2017.

Malone, T., and **B. Van Deynze**. "Experimental Evidence on the Make-Buy Pesticide Application Decision."

1. Track session (EXECON/IBES) presentation at the Agricultural and Applied Economics Association annual meeting. Atlanta, GA, July 21-23, 2019. *

Van Deynze, B., S.M. Swinton, and D.A. Hennessy. "Are Glyphosate-Resistant Weeds a Threat to Conservation Agriculture? Evidence from Tillage Practices in Soybean."

1. Invited presentation at the Alternative Governance Structures for Sustainable Use of Biotechnology preconference workshop at the International Consortium on Applied Bioeconomy Research. Ravello, Italy, June 4, 2019. *
2. Selected paper presented at the Agricultural and Applied Economics Association annual meeting. Washington, DC, August 5-7, 2018.
3. Poster presented at the Long-Term Ecological Research All-Scientists' Meeting. Pacific Grove, CA, September 30-October 4, 2018.

Van Deynze, B., C.A. Bahlai, and C.R. Zirbel. "Coming to a Computing Consensus: Tools for Successful Collaborations in Broad-Scale Ecology."

1. Selected workshop at the Long-Term Ecological Research All-Scientists' Meeting. Pacific Grove, CA, September 30-October 4, 2018.

Van Deynze, B. 2018. "The Effects of Experience on Landowner Preferences over Bioenergy Feedstocks."

1. Selected paper presented at the 30th International Conference of Agricultural Economists. Vancouver, BC, Canada, July 28-August 2, 2018.
2. Poster presented at Great Lakes Bioenergy Research Center All Scientists Meeting. Lake Geneva, WI, May 17-19, 2016.

Constantinou, S., C. Larson, I. Osei-Bonsu, **B. Van Deynze**, C.R. Zirbel, D. Lagos-Kutz, and C.A. Bahlai. "Environmental Variation Influences Aphid Community Structure Over Large Spatial and Temporal Scales."

1. Poster presented at Ecological Society of America annual meeting. Portland, OR, August 6-11, 2017. *

Swinton, S.M., and **B. Van Deynze**. "Hoes to Herbicides: Economics of Evolving Weed Management in the United States"

1. Selected poster presented at Agricultural and Applied Economics Association annual meeting. Boston, MA, July 31-August 2, 2016.

OTHER MEDIA

Van Deynze, B., S.M. Swinton, and D.A. Hennessy. 2019. "Zombie weeds are coming for America's fields." *Michigan Farm News* article.

Swinton, S.M., Z. Luther, and **B. Van Deynze**. 2019. "Precision agriculture enters mainstream." *Michigan Farm News* article.

Van Deynze, B. and R. Smith. 2015. "Park on the Edge: Funding Shortfalls at Olympic National Park." National Parks Conservation Association report.

TEACHING EXPERIENCE

EEM 255: Ecological Economics (3 credits, 69 students), Michigan State University, Fall 2018

ADVISING

Michigan State University: Zachary Luther (M.S. 2020, co-advised with Scott M. Swinton, current Ph.D. student at Vanderbilt University Dept. of Economics, awarded department's Outstanding Master's Thesis Award)

AWARDS AND FELLOWSHIPS

Michigan State University Dept. of Agricultural, Food, and Resource Economics Outstanding Doctoral Dissertation Award, 2020

Kellogg Biological Station – Long-Term Ecological Research Summer Research Fellowship, 2018 (\$5,000)

Michigan State University College of Agriculture and Natural Resources Travel Fellowship, 2018 (\$400)

AAEA Graduate Student Case Study Competition, First Place, 2018

National Merit Scholar, 2011

UNIVERSITY SERVICE

Kellogg Biological Station – Long-Term Ecological Research All-Scientists’ Meeting Planning Committee, 2016-2019

Kellogg Biological Station – Long-Term Ecological Research Graduate Student Representative, 2015-2019

EXTERNAL SERVICE AND PROFESSIONAL ACTIVITIES

Long-Term Ecological Research Network Graduate Student Committee, 2018-2019

Selected paper reviewer for: Agricultural and Applied Economics Association annual meeting, 2019 & 2021

Referee for: *Journal of Agricultural Economics*, *Journal of Soil and Water Conservation*

PROFESSIONAL AFFILIATIONS

Agricultural and Applied Economics Association, Association of Environmental and Resource Economics

RESEARCH INTERESTS

Conservation ecology, restoration ecology, bioeconomics, ecological economics, resource economics, environmental economics, production economics

TECHNICAL PROFICIENCIES

R (preferred), Stata, NLOGIT/NGENE/LIMDEP ecosystem, Git/GitHub, ArcGIS/QGIS (proficient), Wolfram Mathematica (beginner), Python (beginner)

CITIZENSHIP

American (Canadian-born, naturalized in 2010)