

Logan S. Billet, PhD
billet.logan@gmail.com

Education

2020–26	Ph.D. , School of the Environment, Yale University <i>Advisor: Dr. David Skelly</i> <i>Dissertation title: Exploring the Causes and Consequences of Ranavirus Epizootics in an Amphibian Metapopulation</i>
2018–20	M.S. , Department of Forestry and Natural Resources, Purdue University <i>Advisor: Dr. Jason Hoverman</i>
2013–17	B.S. Biology, Allegheny College (<i>cum laude</i>) <i>Advisor: Dr. Matthew Venesky</i>

Professional Experience

2026–present	Post-Doctoral Associate , Department of Ecology, Evolution, and Natural Resources, Rutgers University <i>Advisor: Dr. Erin Sauer</i>
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Awards & Honors

2024	The Phil Bishop Amphibian Conservation Award, 10th World Congress of Herpetology	Award in recognition of contribution to the protection of amphibians (oral presentation award)
2020	Kirkpatrick Memorial Graduate Student Award, Purdue University	Awarded to a wildlife graduate student within one year of graduation
2017	Robert E. Bugbee Memorial Fund Award, Allegheny College	Recognizes the senior student in biology who has demonstrated the most profound level of scientific achievement (top senior project)
2016	Sigma Tau Delta English Honors Society, Allegheny College	

Publications

G [Google Scholar](#)

† → Equal contribution

‡ → Student co-author

In Preparation/In Review

1. **Billet, L. S.**, Bermudez†, J. G., Rubinstein, A. & Skelly, D. K. Disease state and short-term temperature dynamics jointly shape ranavirus mass mortality in wood frog tadpole populations. *Target: Journal of Animal Ecology* (In Prep).

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2. Portmann, J., Skelly, N. K., Freidenburg, L. K., **Billet, L. S.**, Rubinstein, A. & Skelly, D. K. Urbanization impacts on freshwater biodiversity: amphibians, macroinvertebrates, and microbes. *Diversity and Distributions* (In Review).

Published

1. **Billet, L. S.**, Hernández-Gómez, O. & Skelly, D. K. Ranavirus Epizootics and Gut Bacteriome Dysbiosis in Tadpoles: Evidence for the Anna Karenina Principle? *Molecular Ecology*. <https://onlinelibrary.wiley.com/doi/full/10.1111/mec.70022> (2025).
2. **Billet, L. S.** & Skelly, D. K. Sublethal effects of a mass mortality agent: pathogen-mediated plasticity of growth and development in a widespread North American Amphibian. *Frontiers in Amphibian and Reptile Science* 3. <https://www.frontiersin.org/journals/amphibian-and-reptile-science/articles/10.3389/famrs.2025.1529060/abstract> (2025).
3. **Billet, L. S.**, Alshwairikh, Y. A., Freidenburg, L. K., Rubinstein, A., Tracy, S., Nelson, S. & Skelly, D. K. Long-Term Decline of the Spotted Salamander (*Ambystoma maculatum*) in an Undeveloped Landscape. *Herpetologica* 80. <https://doi.org/10.1655/Herpetologica-D-23-00033> (2024).
4. **Billet[†], L. S.**, Wuerthner[†], V. P., Relyea, R. P., Hoverman, J. T. & Hua, J. Population-level variation in insecticide tolerance across three life stages of the trematode *Echinostoma trivolvis*. *Aquatic Toxicology* 261. <https://doi.org/10.1016/j.aquatox.2023.106626> (2023).
5. **Billet, L. S.**, Belskis[‡], A. & Hoverman, J. T. Temperature affects the toxicity of pesticides to cercariae of the trematode *Echinostoma trivolvis*. *Aquatic Toxicology* 245. <https://doi.org/10.1016/j.aquatox.2022.106102> (2022).
6. **Billet, L. S.**, Wuerthner, V. P., Hua, J., Relyea, R. P. & Hoverman, J. T. Population-level variation in infection outcomes not influenced by pesticide exposure in larval wood frogs (*Rana sylvatica*). *Freshwater Biology* 66. <https://doi.org/10.1111/fwb.13708> (2021).
7. **Billet, L. S.** & Hoverman, J. T. Pesticide tolerance induced by a generalized stress response in wood frogs (*Rana sylvatica*). *Ecotoxicology* 29. <https://doi.org/10.1007/s10646-020-02277-2> (2020).
8. **Billet, L. S.**, Wuerthner, V. P., Hua, J., Relyea, R. P. & Hoverman, J. T. Timing and order of exposure to two echinostome species affect patterns of infection in larval amphibians. *Parasitology* 147. <https://doi.org/10.1017/s0031182020001092> (2020).

Educational Publications

1. **Billet, L. S.**, Hoverman, J. T., Koetz, R. & Williams, R. N. Disease ecology. *Nature of Teaching FNR-594-W*, 33pp. https://mdc.itap.purdue.edu/item.asp?Item_Number=FNR-594-W (2020).
2. **Billet, L. S.**, Hoverman, J. T., Koetz, R. & Williams, R. N. Ecotoxicology and environmental health. *Nature of Teaching FNR-595-W*, 25pp. https://mdc.itap.purdue.edu/item.asp?Item_Number=FNR-595-W (2020).

Funding

2024	Kohlberg Donohoe Research Fellowship	\$7500
2023	Kohlberg Donohoe Research Fellowship	\$7500
2023	Yale Institute of Biospheric Studies	\$4900
2022	Yale Institute of Biospheric Studies	\$8000
2022	AMNH Theodore Roosevelt Memorial Fund	\$3465
2022	Kohlberg Donohoe Research Fellowship	\$5000
2021	YLS Law, Ethics and Animals Program Student Grant Program	\$1000
2021	Kohlberg Donohoe Research Fellowship	\$5000
2021	Yale Institute for Biospheric Studies	\$2970
2021	Sigma Xi Grants-in-Aid of Research	\$916
		TOTAL: \$46251

Presentations

Talks

1. **Billet, L. S.** *How Does the Amphibian Gut Bacteriome Respond to Ranavirus Epizootics?* 2025 YSE Confluence Research Series (New Haven, CT, USA). Mar. 2025.
2. **Billet, L. S.** & Skelly, D. K. *Insights from a Multi-year Survey of Ranavirus Epidemics across an Amphibian Metapopulation.* 10th World Congress of Herpetology (Kuching, SWK, Malaysia). Aug. 2024.
– Recognition: The Phil Bishop Amphibian Conservation ward.
3. **Billet, L. S.** *Ranavirus epidemics in vernal pools: What causes mass mortality events?* 2023 YSE Confluence Research Series (New Haven, CT, USA). Mar. 2023.
4. **Billet, L. S.** *Ranavirus epidemics in vernal pools.* 2022 Yale-Myers Forest Summer Seminar Series (Eastford, CT, USA). June 2022.
5. **Billet, L. S.** & Skelly, D. K. *Ranavirus epidemics in tadpole populations: What causes mass mortality events?* 2022 YSE Research Day (New Haven, CT, USA). Apr. 2022.
6. **Billet, L. S.** & Hoverman, J. T. *Exploring the Separate and Interactive Effects of Pesticides and Parasites on Amphibians.* M.S. Degree Defense (West Lafayette, IN, USA). May 2020.
7. **Billet, L. S.** & Hoverman, J. T. *Stress hormones mediate induced pesticide tolerance in wood frogs.* 2019 Annual Meeting for the Ecological Society of America (Louisville, KY, USA). Aug. 2019.
8. **Billet, L. S.** & Venesky, M. D. *Temporal and interspecific variation of the amphibian chytrid fungus in northwest PA.* Allegheny College Biology Department Senior Project Symposium (Meadville, PA, USA). Apr. 2017.
9. **Billet, L. S.** & Venesky, M. D. *The spatiotemporal distribution of the amphibian chytrid fungus in northwest PA.* ACRoSS Research Seminar Series (Meadville, PA, USA). July 2015.

Posters

1. **Billet, L. S.**, Hernández-Gómez, O. & Skelly, D. K. *Ranavirus die-offs reshape tadpole gut microbiomes.* Evolution 2025 (Athens, GA, USA). June 2025.
2. **Billet, L. S.** & Hoverman, J. T. *Induced pesticide tolerance linked to generalized stress response in Lithobates sylvaticus.* Purdue FNR Research Symposium (West Lafayette, IN, USA). Apr. 2019.

- Recognition: Second place, graduate student section.
3. **Billet, L. S. & Venesky, M. D.** *Temporal and interspecific variation of the amphibian chytrid fungus in northwest PA.* Sigma Xi Undergraduate Research Conference (Erie, PA, USA). Apr. 2017.
- Recognition: Second place, ecology section.

Teaching and Guest Lectures

Yale University

SU 2021-25 Grader, Ecology Foundations Waiver Exams for incoming Master's students
 FA 2021, 23 Teaching Fellow, Wetland Ecology, Conservation, and Management (EVST 323)
 & 24
 SP 2024, 25 Teaching Fellow, Fisheries and Aquaculture (EVST 386)

Purdue University

2018, 2019 Guest Lecturer, Wildlife in America (FNR 240)
 2018 Guest lecturer, Disease Ecology (BIOL/FNR 598)

Mentorship

Year(s)	Name(s)	Role(s)
2023	Karinne Tennenbaum, Carolyn Skotz	Undergraduate research assistants
2022-23	Sydney Nelson	Master's student
2021-22	John-Gabriel Bermudez	Senior thesis mentee; Awarded Greg Yamanaka Prize for top senior thesis utilizing Peabody Museum specimens
2018-20	Provided upon request	5 undergraduates and 1 REU student

Outreach

2022	Yale Forests Summer Seminar Series	Gave lecture on vernal pools for local citizens and foresters seeking Continuing Education credits
2019	Nature of Teaching Workshop	Lead a two-day lesson plan workshop for Indiana high school teachers (n = 20).
2018	Purdue Conservation Field Day	Introduced elementary school students (n = 60) to common wetland amphibians and macroinvertebrates

Academic Service

Committees

2024-present	Graduate student representative, Yale Forests Research Committee
2022	Planning committee member, 38th Annual Yale School of the Environment Research Day
2020-21	Representative, Yale School of the Environment Doctoral Committee
2018-19	Vice president, Purdue Forestry and Natural Resources Graduate Student Council

Journal Reviewer

Journal	N reviews
Toxicology	1
PLOS Biology	1
Environmental DNA	1
Oecologia	3
Ecotoxicology	1
Frontiers in Ecology and Evolution	1
Proceedings of the Royal Society B: Biological Sciences	1
Ecotoxicology and Environmental Safety	1
Ecology and Evolution	2
TOTAL:	12

Previous Research Experience

2017	Lab Technician, Department of Forestry and Natural Resources, Purdue University, IN
2016-17	Undergraduate Thesis Research, Department of Biology, Allegheny College, PA
2016-17	Aquatics Lab Technician/Experimental Forest Caretaker, Department of Biology, Allegheny College, PA
2016	Research Technician, PA Unassessed Waters Initiative, Department of Biology, Allegheny College, PA
2015	ACRoSS Undergraduate Summer Research Program, Department of Biology, Allegheny College, PA

Professional Training

2018	Conservation Leaders for Tomorrow, Max McGraw Wildlife Foundation, Dundee Township, IL
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Professional Affiliations

Ecological Society of America
Society for the Study of Evolution

Last updated: January 14, 2026