

CURRICULUM VITAE

(March 2022)

Barbara Lynn Peckarsky

Honorary Fellow, Department of Integrative Biology & Adjunct Professor, Department of Entomology, University of Wisconsin, Madison, WI 53706
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Professor Emeritus, Department of Entomology & Department of Ecology and Evolutionary Biology
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EDUCATION

BS: June 1969, Zoology, University of Wisconsin, Madison

MS: August 1971, Zoology-Education, University of Wisconsin, Madison

PhD: May 1979, Department of Zoology, University of Wisconsin, Madison

EMPLOYMENT

1979-1985 Assistant Professor, Department of Entomology, Cornell University

1985-1991 Associate Professor, Department of Entomology, Cornell University

1991-2005 Professor, Department of Entomology, Cornell University

2003-2005 Professor, Department of Ecology & Evolutionary Biology, Cornell University

2005 – Emeritus Professor, Cornell University

2005 – Honorary Fellow, Department of Zoology, University of Wisconsin

2007 – Adjunct Professor, Department of Entomology, University of Wisconsin

2017 – Department name at UW Madison changed to Integrative Biology

PROFESSIONAL ACTIVITIES

Honorary Lectureships and Awards

2017: Keynote speaker, Australian Society of Limnology meetings (Sydney)

2017: Recipient of the “Apple Award” for most inspirational presentation selected by students attending the Australian Society of Limnology meetings

2016: Simmons Memorial Lecturer, Michigan State University

2014: Gordon Research Conference on Predator-prey interactions (Discussion leader)

2013: H.B.N Hynes Lecturer, Canadian Rivers Institute and University of New Brunswick

2013: Dyason Fellowship, Melbourne University, Australia, Bridging the knowledge gap: how freshwater species can advance our understanding of populations.

2008: Award of Excellence, North American Benthological Society

2006: Erskine Visiting Fellowship, University of Canterbury, Christchurch, NZ

2005 – 2007 – National Center for Ecological Analysis and Synthesis; Working Group: “When, and how much, does fear matter? Quantitatively assessing the impact of predator intimidation of prey on community dynamics”

2003 - 2004 – SUNY Chancellor’s Award for Excellence in Teaching

1999- Cornell College of Agriculture and Life Sciences Professor of Merit Award, Selected by the Class of 99

1993- Visiting Eminent Ecologist, Kellogg Biological Station, Michigan State University

1990 and 1992- Rolling Stonefly News award for excellence in research

1987- Fulbright Fellowship to conduct research in Germany

1983- Weese Lecturer, University of Oklahoma

1982- Nordic Council of Ecology Lecturer, Lund, Sweden

- 1980- Elected to Sigma Xi
- 1979 - Elected to Phi Kappa Phi Honorary Society
- 1978- UW Zoology Departmental Fellowship for outstanding finishing graduate student
- 1977- UW Vilas Fellowship

Professional Service

- Environmental Law & Policy Center Science Advisory Council
2006- present
- Black Earth Creek Watershed Coalition Board of Trustees
2005 – present
2010 – present -Vice President
2021 - President
- Ecological Society of America:
1981-5- Membership Committee
1994-1887 - Mercer Award Committee
1997-1999 -Honorary Membership Award Committee
- Rocky Mountain Biological Laboratory
1982-1992- Board of Trustees
1990-1992- Vice President
- North American Benthological Society (Now Society of Freshwater Science)
1984- Executive Committee
1992, 1996 (Chair) Distinguished Benthologist Committee
2000 – 2002 – Long Range Planning Committee
2002 – 2007 – Hynes Award Committee

Journals and Funding Agencies

- 1997- 2000 - Associate editor Ecology and Ecological Monographs
- 1991-3- Council for International Exchange of Scholars, Life Sciences Review Panel
- 1992- Committee of Visitors invited to evaluate the Ecology program of NSF
- 1990- Committee of Visitors invited to evaluate the Ecology program of NSF
- 1987- NSF Workshop on factors controlling community structure and function in tropical and temperate streams
- 1986-7- Associate Editor for Journal of the North American Benthological Society

RESEARCH INTERESTS

Observational and experimental field studies in Rocky Mountain streams on the life history, behavior, population and community ecology of stream-dwelling organisms; recruitment limitation of population size of stream insects; mechanisms, direct and indirect consequences and evolution of predator-prey, grazer-algal and parasite-host interactions; non-consumptive effects of predators on mayfly life history traits, behavior and population dynamics; invertebrates as indicators of stream water quality; effects of disturbance and climate change on stream organisms; causes and consequences of proliferation of the nuisance diatom (*Didymosphenia geminata*).

EXTERNAL FUNDING

- 1977-1978: National Academy of Sciences (\$1,200) - Interactions among benthic insects within the substrate of stony streams.
- 1977: Univ. of Wisconsin Zoology Dept. (\$150) - Davis Travel Grant

- 1977-1978: National Science Foundation (\$3,509) - Dissertation Research: Interactions among benthic invertebrates within the substrate of stony streams
- 1978: Univ. of Wisconsin (\$204) - Davis Travel Grant
- 1978: U.S. Trout and Salmon Foundation (\$600) Environmental assessment of Colorado streams.
- 1979: NSF (\$ 13,982) Postdoctoral fellowship: Mayfly- stonefly interactions- observations within stony streams.
- 1981: CALS-Cornell: (\$ 5,900) - Development of keys to the aquatic insects of New York State.
- 1982: Ecosystem Research Center (\$ 2,500) - Biotic interactions or abiotic limitations? A model of lotic community structure.
- 1983-1985: NSF (\$147,013) - Predator-prey interactions and stream invertebrate community structure
- 1984: NSF (\$ 7,000) - Dissertation Research (LeeAnne Martinez): Chemoreception in aquatic mayfly and stonefly nymphs and its relationship to predator-prey interactions
- 1984: CALS-Cornell (\$900) - Scanning electron microscopy of mayfly and stonefly sensory systems.
- 1984: CALS-Cornell (\$6,000) - Control of nuisance caddisflies on the Niagara River.
- 1985: Cornell University Women's Development Fund (\$ 2,000) Preparation for publication of Keys to the NYS Aquatic Invertebrates.
- 1985: CALS-Cornell (\$ 1,000) - Travel grant for study at scientific institutions in foreign countries.
- 1986-1989: NSF (\$209,000) - Role of stonefly predation in stream invertebrate communities
- 1988: CALS book fund (\$5,000) - Preparation of illustrations for Cornell University Press textbook on Freshwater Macroinvertebrates.
- 1989: American Philosophical Society (\$3,000) - Direct and indirect effects of watershed acidification on aquatic insects.
- 1990-1993: NSF (\$260,000) - Causes of selective predation and consequences of predator avoidance by stream-dwelling insects
- 1992: NSF (\$5,000) REU Supplement (Bradley Taylor): Effects of body size on fitness of stoneflies
- 1991-1993: NSF (\$9,000) - Dissertation Research (Peter Ode): The influence of concurrent costs and risks on the foraging behavior of grazing mayflies
- 1992-1994: NSF (\$9,514) - Dissertation Research (Sarah Vance): Direct and indirect effects of mermithid parasites on a stream-dwelling mayfly
- 1994-1997: NSF (\$261,102) - Consequences of larval interactions to mayfly survival, fecundity and population growth
- 1994: NSF (\$12,061) Travel grant from the International Programs Office for sabbatical in Australia
- 1997-2000: NSF (\$200,642) - Collaborative Research: Effects of predators on resource heterogeneity: a behavioral trophic cascade (with A. R. McIntosh)
- 1997: NSF: (\$5,000) - REU (Sean Gross): Effects of habitat on salmonid distributions in Rocky Mountain streams
- 1998-2000: NSF (\$9,000) - Dissertation Research (Chris Caudill): Population dynamics of aquatic insects in beaver ponds: influence of dispersal, behavior and predators
- 2001 – 2005: NSF (\$200,008) - Effects of recruitment and post-recruitment processes on abundance of stream insects: a comparative approach.

- 2001 – 2004: NSF (\$10,300) - Dissertation Research (Kate Macneale): Dispersal within and among stream corridors: implications for the distribution and population structure of stoneflies in the White Mountain National Forest.
- 2001 – 2006 – HATCH grant (\$50,000) Macroinvertebrates as indicators of impacts on stream habitat quality: integrating research, education and outreach
- 2002 – 2004: NSF (\$10,000) - Dissertation Research (Andrea Encalada): Patterns, mechanisms and consequences of oviposition behavior for recruitment of the mayfly, *Baetis bicaudatus*.
- 2002: YSI (\$20,000) - Funding for permanent gauging stations on the East River and Copper Creek at the Rocky Mountain Biological Laboratory
- 2003: NSF (\$6,000) REU (Matthew Harper) - Factors affecting emergence of *Baetis bicaudatus*
- 2003: The Gunnison Angling Society, Chapter of Trout Unlimited (\$4,400) - Support for stream biomonitoring activities at the Rocky Mountain Biological Laboratory
- 2004: NSF (\$6,000) REU (Lisa Marko) – Comparing predator-induced changes in holometabolous and hemimetabolous stream insect life history traits.
- 2004 - 2007: NSF (\$429,695) Acquisition of GIS and GPS Equipment by the Rocky Mountain Biological Laboratory in order to enable High Resolution Spatially Explicit Research and Training (one of several Co-PI's)
- 2006 – 2010: NSF (\$350,000) Collaborative Research: Variation in the strength of cascading trophic interactions across a riverscape (with AR McIntosh)
- 2008 – 2011: NSF (\$473,800) MRI: Acquisition of a Distributed Environmental Sensor Network by the Rocky Mountain Biological Laboratory (one of several Co-PI's)
- 2011 – Kingsdale Fellowship, Rocky Mountain Biological Laboratory (\$10,000)
- 2012 – Wisconsin Department of Natural Resources (\$6,000), Evaluating alternative methods of biomonitoring streams.
- 2012 – Fellowship, Rocky Mountain Biological Laboratory (\$1,500)
- 2013 – Fellowship, Rocky Mountain Biological Laboratory (\$1,500)
- 2014 – Fellowship, Rocky Mountain Biological Laboratory (\$1,500)
- 2014 – National Science Foundation - BIO REU Mentor-Student Travel Scholarships (\$6,000)
- 2015 - Fellowship, Rocky Mountain Biological Laboratory (\$1,500)
- 2016 – NSF (\$16,380) Dissertation Research (Kara Cromwell) The interaction between environmental context and host attributes in driving parasitism
- 2016 – Fellowship, Rocky Mountain Biological Laboratory (\$1,250)
- 2017 – Fellowship, Rocky Mountain Biological Laboratory (\$1,000)
- 2018 – Fellowship, Rocky Mountain Biological Laboratory (\$1,000)
- 2019 – Fellowship, Rocky Mountain Biological Laboratory (\$1,000)
- 2021 - Fellowship, Rocky Mountain Biological Laboratory (\$1,000)

JOURNAL PUBLICATIONS AND BOOK CHAPTERS

- Peckarsky, B. L. **1979**. Biological interactions as determinants of distributions of benthic invertebrates within the substrate of stony streams. *Limnology and Oceanography* 24:59-68.

- Peckarsky, B. L. **1979**. A review of the distribution, ecology, and evolution of the North American species of *Acroneuria* and six related genera (Plecoptera: Perlidae). *Journal of the Kansas Entomological Society* 52:787-809.
- Peckarsky, B. L. **1980**. Predator-prey interactions between stoneflies and mayflies: Behavioral observations. *Ecology* 61:932-943.
- Peckarsky, B. L. **1980**. The influence of detritus upon the colonization of stream invertebrates. *Canadian Journal of Fisheries and Aquatic Science* 37:957-963.
- Peckarsky, B. L. and S. I. Dodson. **1980**. Do stonefly predators influence benthic distributions in streams? *Ecology* 61:1275-1282.
- Peckarsky, B. L. and S. I. Dodson. **1980**. An experimental analysis of biological factors contributing to stream community structure. *Ecology* 61:1283-1290.
- Peckarsky, B. L. **1981**. Reply to comment by Sell. *Limnology and Oceanography* 26:982-987.
- Peckarsky, B. L. and K. Z. Cook. **1981**. The effects of Keystone Mine effluent on colonization of stream benthos. *Environmental Entomology* 10:861-871.
- Peckarsky, B. L. **1982**. Aquatic insect predator-prey relations. *BioScience* 32:261-266.
- Peckarsky, B. L. **1983**. Biotic interactions or abiotic limitations? A model of lotic community structure. pp. 303-323 *In* Fontaine, T. D. III and S. M. Bartell (ed.), *Dynamics of lotic ecosystems*. Ann Arbor Science Publ., Ann Arbor, MI.
- Peckarsky, B. L. **1984**. Predator-prey interactions among aquatic insects. pp. 196-254 *In* Resh, V. H. and D. M. Rosenberg (eds.), *Ecology of aquatic insects*. Praeger Press, NY.
- Peckarsky, B. L. **1984**. Use of behavioral experiments to test ecological theory in streams. pp. 79-97 *In* Barnes, J. R. and G. W. Minshall (eds.), *Stream ecology: Application and testing of general ecological theory*. Plenum Press, NY.
- Peckarsky, B. L. **1984**. Sampling the stream benthos. pp. 131-160 *In* Downing, J. A. and F. H. Rigler (eds.), *A manual on methods for assessing secondary productivity in freshwaters*. IBP Handbook #17, 2nd Ed. Blackwell Scientific Publications.
- Peckarsky, B. L. and M. A. Penton. **1985**. Is predaceous stonefly behavior influenced by competition? *Ecology* 66:1718-1728.
- Peckarsky, B. L. **1985**. Do predaceous stoneflies and siltation affect the structure of stream insect communities colonizing enclosures? *Canadian Journal of Zoology* 63:1519-1530.
- Bukantis, R. T. and B. L. Peckarsky. **1985**. Emergence of adults of *Agnentina capitata* and *Acroneuria carolinensis* (Plecoptera: Perlidae). *American Midland Naturalist* 114:200-204.
- Peckarsky, B. L. **1986**. Colonization of natural substrates by stream benthos. *Canadian Journal of Fisheries and Aquatic Sciences* 43:700-9.
- Hansen, M. J., S. P. Gloss and B. L. Peckarsky. **1986**. Predator species richness and prey population variability: Effects on diets of benthic stream fishes. *American Midland Naturalist* 115:63-72.
- Peckarsky, B. L. **1987**. Succession, scale, and hypothesis testing in streams: A reply to Fisher. *Canadian Journal of Fisheries and Aquatic Sciences* 44:689-91.
- Peckarsky, B. L. **1987**. Mayfly cerci as defense against stonefly predation: deflection and detection. *Oikos* 48:161-70.
- Peckarsky, B. L. **1988**. Why predaceous stoneflies do not aggregate with their prey. *Verhandlungen Internationale Verein Limnologie* 23:2135-40.
- Peckarsky, B. L. and M. A. Penton. **1988**. *Ephemerella* defensive posture: a "ghost of predation past?" *Oikos* 53:185-93.
- Meyer, J. L. et al. **1988**. Elemental dynamics in streams. *Journal of the North American Benthological Society* 7:410-32.
- Delucchi, C. M. and B. L. Peckarsky. **1989**. Life history adaptations of insects in a temporary stream. *Journal of the North American Benthological Society* 8:308-21.
- Peckarsky, B. L. and M. A. Penton. **1989**. Early warning lowers risk of stonefly predation for a vulnerable mayfly. *Oikos* 54:301-9.

- Peckarsky, B. L. and M. A. Penton. **1989**. Mechanisms of prey selection by stream-dwelling stoneflies. *Ecology* 70:1203-18.
- Peckarsky, B. L. and R. S. Wilcox. **1989**. Stoneflies prefer hydrodynamically conspicuous prey. *Oecologia* 79:265-70.
- Cowan, C. A. and B. L. Peckarsky. **1990**. Feeding of a lotic mayfly grazer as quantified by gut fluorescence. *Journal of the North American Benthological Society* 9:368-378.
- Cooper, S. D., S. J. Walde, and B. L. Peckarsky. **1990**. Prey exchange rates and the impact of predators on prey populations in streams. *Ecology* 71:1503-1514.
- Peckarsky, B. L., S. C. Horn, and B. Statzner. **1990**. Stonefly predation along a hydraulic gradient: a test of the harsh-benign hypothesis. *Freshwater Biology* 24:181-191.
- Peckarsky, B. L. and M. A. Penton. **1990**. Effects of enclosures on stream microhabitat and invertebrate community structure. *Journal of the North American Benthological Society* 9:249-261.
- Peckarsky, B.L. **1991**. A field test of resource depression by predatory stonefly larvae. *Oikos* 61:3-10.
- Peckarsky, B.L. **1991**. Habitat selection by stream-dwelling predatory stoneflies. *Canadian Journal of Fisheries and Aquatic Sciences* 48:1069-1976.
- Peckarsky, B. L. **1991**. Mechanisms of intraspecific interference between stream-dwelling stonefly larvae. *Oecologia* 85:521-529.
- Peckarsky, B. L. and C. A. Cowan. **1991**. Consequences of larval intraspecific interference to stonefly growth and fecundity. *Oecologia* 88:277-288.
- Peckarsky, B. L. **1992**. Is there a coevolutionary arms race between predators and prey? A case study. In: Menon, J. (Ed.) *Trends in Ecology*. Council of Scientific Research Integration. Trivandrum, India.
- Peckarsky, B.L., C.A. Cowan, M.A. Penton, and C. Anderson. **1993**. Sublethal consequences of predator-avoidance by stream-dwelling mayfly larvae to adult fitness. *Ecology* 74:1836-1846.
- Moreira, G.P. and B.L. Peckarsky. **1994**. Multiple developmental pathways of *Agnatina capitata* (Plecoptera: Perlidae) in a temperate forest stream. *Journal of the North American Benthological Society* 13:19-29.
- Peckarsky, B.L., C.A. Cowan, and C. Anderson. **1994**. Consequences and plasticity of specialized predatory behavior of stream-dwelling stonefly larvae. *Ecology* 75:166-181.
- Cowan, C. A. and B. L. Peckarsky. **1994**. Diel feeding and positioning periodicity of a grazing mayfly in a trout stream with and a fishless stream. *Canadian Journal of Fisheries and Aquatic Sciences* 51:450-459.
- Dodson, S, T.A. Crowl, B.L. Peckarsky, L.B. Kats, A.P. Covich, and J.M. Culp. **1994**. Non-visual communication in freshwater benthos and zooplankton. *Journal of the North American Benthological Society* 13:268-282.
- Kerans, B. L., B. L. Peckarsky, and C. R. Anderson. **1995**. Estimates of mayfly mortality: is stonefly predation a significant source? *Oikos* 74:315-323.
- Peckarsky, B.L. and C.A. Cowan. **1995**. Microhabitat and activity periodicity of predatory stoneflies and their mayfly prey in a western Colorado stream. *Oikos* 74:513-521.
- McIntosh, A.R. and B.L. Peckarsky. **1996**. Differential behavioural responses of mayflies from stream with and without fish to trout odour. *Freshwater Biology* 35:141-148.
- Peckarsky, B. L. **1996**. Predator-prey interactions. Chapter 20 (pp. 431-451) In: R. Hauer and G. Lamberti (eds.) *Methods in Stream Ecology*, Academic Press, NY.
- Peckarsky, B. L. **1996**. Alternative predator avoidance syndromes in stream-dwelling mayflies. *Ecology* 77:1888-1905.

- Vance, S. A. and B. L. Peckarsky. **1996**. The infection of nymphal *Baetis bicaudatus* (Ephemeroptera) by the mermithid nematode *Gasteromermis* sp. *Ecological Entomology* 221:377-381.
- Zanatelle, B. and B.L. Peckarsky. **1996**. Stoneflies as ecological engineers -- hungry predators reduce fine sediments in stream beds. *Freshwater Biology* 36:569-578.
- Peckarsky, B. L. **1997**. Macroinvertebrates as indicators of stream habitat degradation. Pp. 37-40 in: *Streamkeepers. Aquatic Insects as Biomonitorers*. Xerces Society, Portland, OR.
- Peckarsky, B. L., S. D. Cooper, and A. R. McIntosh. **1997**. Extrapolating from individual behavior to populations and communities in streams. *Journal of the North American Benthological Society* 16:375-390.
- Vance, S. A. and B. L. Peckarsky. **1997**. The effect of mermithid parasitism on predation of nymphal *Baetis bicaudatus* (Ephemeroptera) by invertebrates. *Oecologia* 110:147-152.
- Peckarsky, B. L. **1998**. The dual role of experiments in complex and dynamic natural systems. pp. 311-423 in: Resetarits, W. J. Jr. and J. Bernardo (eds). *Experimental Ecology. Issues and Perspectives*. Oxford Univ. Press.
- Peckarsky, B. L. and A. R. McIntosh. **1998**. Fitness and community consequences of avoiding multiple predators. *Oecologia* 113:565- 576.
- McPeck, M. A. and B. L. Peckarsky. **1998**. Life histories and the strengths of species interactions: combining mortality, growth and fecundity effects. *Ecology* 79:235-247.
- Taylor, B. W, C. R. Anderson, and B.L. Peckarsky. **1998** Effect of size at metamorphosis on stonefly fecundity, longevity, and reproductive success. *Oecologia*. 114:494-502.
- McIntosh, A. R. and B. L. Peckarsky. **1999**. Criteria determining behavioural responses to multiple predators by a stream mayfly. *Oikos* 85:554-564.
- McIntosh, A. R., B. L. Peckarsky and Brad W. Taylor. **1999**. Rapid size-specific changes in mayfly drift caused by alterations in fish odour . *Oecologia* 118:256-264.
- Anderson, C. R, B. L. Peckarsky, and S. A. Wissinger. **1999**. Tinajas of southeastern Utah. Invertebrate reproductive strategies and the habitat templet. pp. 791-810 in: Batzer, D. P, R. B. Rader, and S. A. Wissinger (eds.). *Invertebrates in freshwater wetlands of North America*. John Wiley & Sons, Inc, NY.
- Taylor, B. W, C. R. Anderson, and B.L. Peckarsky. **1999**. Egg diapause and semivoltinism in the Nearctic stonefly *Megarcys signata* (Plecoptera: Perlodidae). *Aquatic Insects* 21:179-185.
- Peckarsky, B. L, B. W. Taylor, and C. C. Caudill. **2000**. Hydrologic and behavioral constraints on oviposition of stream insects: implications for adult dispersal. *Oecologia* 125:186-200.
- Lytle, D. A. and B. L. Peckarsky. **2001**. Spatial and temporal impacts of a diesel fuel spill on stream invertebrates. *Freshwater Biology* 46:1 - 12.
- Peckarsky, B. L., B. W. Taylor, A. R. McIntosh, M. A. McPeck and D. A. Lytle. **2001**. Variation in mayfly size at metamorphosis as a developmental response to risk of predation. *Ecology* 82:740-757.
- Taylor, B. W, A. R. McIntosh and B. L. Peckarsky. **2001**. Sampling stream invertebrates using electroshocking techniques: implications for basic and applied research. *Canadian Journal of Fisheries and Aquatic Science* 58:437-445.
- Peckarsky, B. L., A. R. McIntosh, B. R. Taylor and J. Dahl. **2002**. Predator chemicals induce changes in mayfly life history traits: a whole-stream manipulation. *Ecology* 83:612-618.
- Macneale, KH, GE Likens and BL Peckarsky. **2002**. Feeding strategies of an adult stonefly (Plecoptera): implications for egg production and dispersal. *Verhandlungun Internationale Verein Limnologie* 28(2):1140-1146.

- Dahl, J and B. L. Peckarsky. **2002**. Induced morphological defenses in the wild: predator effects on a mayfly, *Drunella coloradensis*. *Ecology* 83:1620-1634.
- Peckarsky, B. L., A. R. McIntosh, C. C. Caudill and J. Dahl. **2002** Stabilizing selection on male body size of high altitude populations of *Baetis bicaudatus* (Ephemeroptera: Baetidae). *Behavioral Ecology and Sociobiology* 51:530-537.
- Taylor, B. W., A. R. McIntosh, and B. L. Peckarsky. **2002**. Large-scale invertebrate manipulations in stream ecosystems: invertebrate removal, algal response, and opportunities for innovation. *Limnology and Oceanography* 47:893-899.
- McIntosh, A. R., B. L. Peckarsky, and B. W. Taylor. **2002**. The influence of predatory fish on mayfly drift: extrapolating from experiments to nature. *Freshwater Biology* 47 (8):1497-1513.
- Caudill, C. C. and B. L. Peckarsky. **2003**. Lack of appropriate behavioral or developmental responses by mayfly larvae to trout predators. *Ecology* 84:2133-2144.
- Dahl, J and B. L. Peckarsky. **2003**. Developmental responses to predation risk in morphologically defended mayflies. *Oecologia* 137:188-194.
- Dahl, J. and B. L. Peckarsky. **2003**. Does living in streams with fish involve a cost of induced morphological defenses? *Canadian Journal of Zoology* 81:1825-1828.
- Hughes, J. M., P. B. Mather, M. Hillyer, C. Cleary and B. L. Peckarsky. **2003**. Genetic structure in a montane mayfly *Baetis bicaudatus* (Ephemeroptera: Baetidae), from the Rocky Mountains, Colorado. *Freshwater Biology* 12:2149-2162.
- Macneale, K. H., B. L. Peckarsky, and G. E. Likens. **2004**. Contradictory results from different methods for measuring direction of insect flight. *Freshwater Biology* 49:1260-1268.
- McIntosh, A. R., B. L. Peckarsky, and B. W. Taylor. **2004**. Predator-induced resource heterogeneity in a stream food web. *Ecology* 85:2279-2290.
- McIntosh, A. R. and B. L. Peckarsky. **2004**. Are mayfly anti-predator responses to fish odor proportional to risk? *Archiv für Hydrobiologie* 160:145-151.
- Peckarsky B.L., J. M. Hughes, M. Hillyer, and A. C. Encalada. **2004**. Are populations of mayflies living in adjacent fish and fishless streams genetically distinct? *Freshwater Biology* 50: 42-51.
- Álvarez, M. and B. L. Peckarsky. **2005**. How do grazers affect periphyton heterogeneity in streams? *Oecologia* 142: 576 – 587.
- Harper, M. P. and B. L. Peckarsky. **2005**. Effects of pulsed and pressed disturbances on the benthic invertebrate community following a coal spill in a small stream in northeastern USA. *Hydrobiologia* 544:241-247.
- Macneale K. H., B. L. Peckarsky, and G. E. Likens. **2005**. Stable isotopes identify dispersal patterns of a stonefly. *Freshwater Biology* 50:1117-1130.
- Harper, M. P. and B. L. Peckarsky. **2006**. Emergence cues of a mayfly in a high altitude stream ecosystem: Implications for consequences of climate change. *Ecological Applications* 16:612-621.
- Encalada, A. C. and B. L. Peckarsky. **2006**. Selective oviposition by the mayfly *Baetis bicaudatus*. *Oecologia* 148:526-537.
- Peckarsky, B. L. **2006**. Predator-prey interactions. Chapter 24 In: R. Hauer and G. Lamberti (eds.) *Methods in Stream Ecology*, Academic Press, NY. Second edition.
- Encalada, A. C. and B. L. Peckarsky. **2007**. A comparative study of the cost of alternative mayfly oviposition behaviors. *Behavioral Ecology and Sociobiology* 61:1437-1448.

- Peckarsky, B. L., B. L. Kerans, A. R. McIntosh and B. W. Taylor. **2008**. Predator effects on prey population dynamics in open systems. *Oecologia* 156:431-440.
- Wilcox, A, B. L. Peckarsky, B. W. Taylor and A. C. Encalada. **2008**. Hydraulic and geomorphic effects on mayfly drift in high-gradient streams at moderate discharges. *Ecohydrology* 1:176-186.
- Orrock, J. L, J. H. Grabowski, J. H. Pantele, S. D. Peacor, B. L. Peckarsky, E. L. Preisser, A. Sih and E. E. Werner. **2008**. Consumptive and non-consumptive effects of predators on metacommunities of competing prey. Special Feature. *Ecology* 89:2426-2435.
- Peckarsky, B. L, D. A. Bolnick, L. M. Dill, J. H. Grabowski, B. Luttbeg, J. L. Orrock, S. D. Peacor, E. L. Preisser, O. J. Schmitz and G.C. Trussell. **2008**. Revisiting the Classics: Considering non-consumptive effects in textbook examples of predator-prey interactions. Special Feature. *Ecology* 89: 2416-2425.
- Schmitz, O. J., J. H. Grabowski, B. L. Peckarsky, E. L. Preisser, G. C. Trussell and J. R. Vonesh. **2008**. From individuals to ecosystem function: toward an integration of evolutionary and ecosystem ecology. Special Feature. *Ecology* 89:2436-2445.
- Orrock, J. L., A. Sih, L. M. Dill, J. H. Grabowski, S. D. Peacor, B. L. Peckarsky, E. L. Preisser, J. R. Vonesh, and E. E. Werner. **2010**. Predator effects in predator-free space: The remote effects of predators on prey. Special Feature on the Ecology of Fear. *The Open Ecology Journal* 3:22 – 30.
- Peckarsky, B. L. J. D. Allan, A. R. McIntosh and B. W. Taylor. **2010**. Understanding the role of predation in open systems: the value of place-based research. Pages 185-206 *In*: Ian A. Billick and Mary V. Price, Editors. *The Ecology of Place*. University of Chicago Press.
- Fuller, M. R. and B. L. Peckarsky. **2011**. Ecosystem engineering by beavers affects mayfly life histories. *Freshwater Biology* 56:959-979.
- Fuller, M. R. and B. L. Peckarsky. **2011**. Does the morphology of beaver ponds alter downstream ecosystems? *Hydrobiologia* 668 (1):35-48.
- Peckarsky, B. L., A. C. Encalada and A. R. McIntosh. **2011**. Why do vulnerable mayflies thrive in trout streams? Feature Article in *American Entomologist* 57(3):152-164.
- Encalada, A. C. and B. L. Peckarsky. **2011**. The influence of recruitment on within-generation population dynamics of a mayfly. *Ecosphere* 2(10):107.doi:10.1890/ES11-00103.1.
- Encalada, A. C. and B. L. Peckarsky. **2012**. Large-scale manipulation of mayfly recruitment affects population size. *Oecologia* 168:967-976. DOI 10.1007/s00442-0112147-1.
- Peacor, S. D., B. L. Peckarsky, G. C. Trussell, and J. R. Vonesh. **2013**. Costs of predator-induced phenotypic plasticity: A graphical model for predicting the contribution of non-consumptive and consumptive effects of predators on prey. *Oecologia* 171:1-10.
- Alp, M., B. L. Peckarsky, S. Bernasconi and C. T. Robinson. **2013**. Shifts in natural isotopic signatures of animals with complex life-cycles can complicate conclusions on cross-boundary trophic links. *Aquatic Sciences* 75:595-606.
- Àlvarez, M. and B. L. Peckarsky. **2013**. Food, refuge or both? The influence of moss on grazer assemblages in high altitude streams. *Freshwater Biology* 58:1982-1994
- Peckarsky, B. L., A. R. McIntosh, M. Alvarez, and J. M. Moslemi. **2013**. Nutrient limitation controls the strength of behavioral trophic cascades in high elevation streams. *Ecosphere* 4(7):XX. <http://dx.doi.org/10.1890/ES13.00084.1>
- Àlvarez, M. and B. L. Peckarsky. **2014**. Cascading effects of predatory fish on the composition of benthic algae in high-altitude streams. *Oikos* 123:120-127. DOI: 10.1111/j.1600-0706.2013.00397.x

- Hernandez, S. and B. L. Peckarsky. **2014.** Do stream mayflies exhibit trade-offs between food acquisition and predator avoidance behaviors? *Freshwater Science* 33:1-11.
- Peckarsky, B. L., A. R. McIntosh, S. C. Horn, A. Wilcox, K. McHugh, D. Booker, W. S. Brown, and M. Alvarez. **2014.** Characterizing disturbance regimes of mountain streams. *Freshwater Science* 33:716-730.
- Heino, J. and B. L. Peckarsky. **2014.** Integrating behavioral, population and large-scale approaches for understanding stream insect communities. *Current Opinion in Insect Science* 2:7-13.
- Alvarez, M., A. Landiera-Dabarca and B. L. Peckarsky. **2014.** Origin and specificity of predatory fish cues detected by *Baetis* larvae (Ephemeroptera: Insecta). *Animal Behavior* 96:141-149.
- Peckarsky B. L., A. R. McIntosh, M. Alvarez and J. M. Moslemi. **2015.** Disturbance legacies and nutrient limitation influence interactions between grazers and algae in high elevation streams. *Ecosphere* 6(11):XXXX. <http://dx.doi.org/10.1890/ES15-00236.1>
- Lund, J. O., S. A. Wissinger, and B. L. Peckarsky. **2016.** Caddisfly behavioral responses to drying cues in temporary ponds: implications for effects of climate change. *Freshwater Science* 35(2):619-630.
- Peckarsky, B. L. and G. A. Lamberti. **2017.** Invertebrate consumer – resource interactions. Chapter 18 In: F. R. Hauer and G. A. Lamberti (Eds.) *Methods in Stream Ecology*, Volume 1: Ecosystem Structure. Elsevier, Academic Press. ISBN: 9780124165588.
- Landiera-Dabarca, A., Alvarez, M., and B. L. Peckarsky. **2019.** Mayflies avoid sweets: fish skin mucus amino-sugars stimulate predator-avoidance behaviour of *Baetis* larvae. *Animal Behaviour* 158:35-45.
- Koch, B. J., B. L. Peckarsky and R. O. Hall. **2020.** Nonconsumptive effects of brook trout predators reduce secondary production of mayfly prey. *Freshwater Science* 39(3):549-558.
- Downes, B. A., B. L. Peckarsky, J. Lancaster, W. Boville, and M. Alp. **2021.** (Invited review) From insects to frogs, egg-juvenile recruitment can have persistent effects on population sizes. *Annual Review of Ecology, Evolution and Systematics* 52:67-86.

SUBMITTED MANUSCRIPTS IN REVIEW OR REVISION:

- Brogan, M. and B. L. Peckarsky. Consequences of nuisance blooms of *Didymosphenia geminata* in Rocky Mountain streams. *Freshwater Science* (Submitted to Freshwater Science)
- Cromwell, K. and B. L. Peckarsky. Parasites experiencing predation risk accelerate consumption of their host. Submitted to *Proceedings of the Royal Society B*.
- Cromwell, K. and B. L. Peckarsky, and B. Swift. Single-host parasites alter multiple dimensions of host phenotype to decrease consumption by top predators in natural streams. Submitted to *Ecology*.
- Cromwell, K. and B. L. Peckarsky. Parasites that manipulate insect hosts for dispersal do not benefit from increases in host oviposition sites. Manuscript in revision.
- Cromwell, K. and B. L. Peckarsky. The interaction of temperature with parasite phenology, infection prevalence, and growth in a high-altitude stream network. Manuscript in revision.
- Encalada, A. C. and B. L. Peckarsky. Low egg mortality as a benefit of specialized oviposition behavior in the mayfly, *Baetis bicaudatus*. Submitted to *Freshwater Biology*.

- Hamilton, J., K. Cromwell, and B. L. Peckarsky. Heavy metal pollution and parasitism affect mayfly drift behavior and susceptibility to stonefly predation. Manuscript in revision.
- Haskell, H., M. Brogan, M. A. Penton, B. W. Taylor, and B. L. Peckarsky. Causes of nuisance blooms of *Didymosphenia geminata* in Rocky Mountain streams. Manuscript in preparation for Freshwater Science.
- Koch, B. J., A. D. Middleton, R. O. Hall, Jr. and B. L. Peckarsky. Secondary production integrates behavioral, physiological, and life history risk effects in diverse prey taxa. Submitted to *Oecologia*. In Revision.
- Moslemi, J. M., Peckarsky, M. Alvarez, M. Davidson and A. R. McIntosh. Regional stoichiometric variability and consumer-resource elemental mismatches in a high elevation stream network. (Manuscript)
- Moslemi, J. M., B. L. Peckarsky, M. Alvarez, M. Davidson and A. R. McIntosh. Consequences of top-down and bottom-up forces on consumer-resource stoichiometry and elemental imbalance across experimental scales. (Manuscript)
- Peacor, S. D., B. T. Barton, B. L. Peckarsky, P. Abrams, M. Sheriff, and D. Kimbro. Formalizing the terminology of predation risk: The anatomy of predation risk effects. (Manuscript)
- Peckarsky, B. L., M. A. Miller, K. Cromwell, J. Diamond, J. Stribling and K. Schmude. A modified performance-based comparability framework of macroinvertebrate field and laboratory protocols. (Manuscript)
- Peckarsky, B. L. and M. E Power. The ecology of place. Chapter 13 in: *Foundations of Stream Ecology: Classic Papers with Commentaries*. W. F Cross, J. P. Benstead, A. M. Marcarelli and R. A. Sponseller (editors). University of Chicago Press. (Invited)
- Robbins, C. B. and B. L. Peckarsky. Environmental influences on mermithid parasitism of *Baetis* mayflies in high altitude streams. (Manuscript)
- Taylor, B. W., E. H. Bernhardt, and B. L. Peckarsky. Regulation of stream primary production at local and regional spatial scales. (Manuscript)

BOOKS

- Peckarsky, B. L., S. I. Dodson and D. J. Conklin. 1985. A key to the aquatic insects of streams in the vicinity of the Rocky Mountain Biological Lab. including chironomid larvae from streams and ponds. Colorado Division of Wildlife. 47 pp.
- Peckarsky, B. L., P. Fraissinet, M. A. Penton, and D. J. Conklin, Jr. 1990. *Freshwater macroinvertebrates of Northeastern North America*. Cornell University Press, Ithaca, NY. 442 pp.

THESES

- Peckarsky, B. L. 1971. A biological approach to environmental education -- a curriculum. Master's thesis, University of Wisconsin. 184 pp.
- Peckarsky, B. L. 1979. Experimental manipulations involving the determinants of the spatial distribution of benthic invertebrates within the substrate of stony streams. Ph.D. Thesis, University of Wisconsin, Madison. 269 pp.

REPORTS

- Peckarsky, B. L. 1976. The effects of the proposed East River Plan on the water quality of the East River. pp. 33-36 In *Biologically significant areas in Gunnison County, Colorado*. Report published for the Gunnison County Commissioners and the

Gunnison County Planning Commission by the Rocky Mountain Biological Laboratory at Gothic.

Archbald, D. and B. L. Peckarsky. 1972. Manual for student development of a school environmental information clearinghouse. Impressions, Inc. Madison, Wisconsin. 8 pp.

BOOK REVIEWS

Thompson, Coldrey & Bernard. The Pond. Oxford Scientific Films. Quarterly Review of Biology 60:100 (1985).

Feder, M. E. and G. V. Lauder (eds.), Predator-prey relationships. Perspectives and approaches from the study of lower vertebrates. J. NABS 6:81-3 (1987).

Pennak, R. W. Fresh-water invertebrates of the United States. Third Edition. Wiley Interscience. Freshwat. Biol. 25:555-556. (1991).

Bonta, M. M. Women in the field. America's pioneering women naturalists. Texas A&M University Press. College Station. J. NY Entomological Society 100(4): 638-640. (1992)

Ward, J.V. A guide to the mountain stream insects of Colorado. Quarterly Review of Biology 68:609-610. (1993)

Wiggins, G. B. Larvae of the North American caddisfly genera (second edition). University of Toronto Press. Quarterly Review of Biology 71:590. (1996)

PUBLISHED ABSTRACTS

American Society of Limnology and Oceanography (1977, 1988, 2010)
Ecological Society of America (1979, 1981, 1984, 1997, 2001, 2005, 2009)
Entomological Society of America (1981, 1983, 2010)
International Congress of Systematic and Evolutionary Biology (1985)
North American Benthological Society (annually since 1976) (Freshwater Science, as of 2012)

SABBATICALS

1987- Department of Zoology, University of Canterbury, Christchurch, NZ (funded by NSF)

1987- Zoologisches Institut, Karlsruhe, Germany (funded by a Fulbright Fellowship)

1994 - Department of Ecology and Evolutionary Biology, Monash University, Victoria, Australia (funded by NSF)

2003 – Development of a database of invertebrates in streams of Central New York (Funded by HATCH)

INVITED DEPARTMENTAL SEMINARS

2020 - 2021: Missouri State University, Biology Department

2016 – 2017: University of Wisconsin Madison, Entomology Department

2015-2016: Michigan State University

2014-2015: University of Maine

University of San Francisco, Quito, Ecuador

2013-2014: Rocky Mountain Biological Laboratory

Canadian Rivers Institute, University of New Brunswick

2011- 2012: IGB, Berlin, Germany

2010-2011: Department of Entomology, University of Wisconsin Madison

2009-2010: EAWAG, Zurich, Switzerland

Department of Biology, Montana State University

2008-2009: Colorado Water Workshop, Mt. Crested Butte, CO

Wisconsin Ecology Symposium, Madison, Wisconsin

- Department of Biology, Lawrence University
 2007-2008: NABS Award Seminar: "Ecology of Place"
 Department of Biology, University of Wisconsin, Whitewater
 Department of Biological Sciences, Dartmouth College
 2006-2007: Department of Biology, Duke University
 Department of Biology, University of Canterbury, Christchurch, NZ
 Department of Education, University of Wisconsin
 2005-2006: Department of Biology, University of Pittsburgh
 Center for Limnology, University of Wisconsin
 Department of Zoology, University of Wisconsin
 Department of Entomology, Penn State University
 2004-2005: Adirondack Field Museum
 Department of Entomology, Cornell University
 Department of Ecology and Evolutionary Biology, Cornell University
 2003-2004: Institute of Insect Science, University of Arizona
 Rocky Mountain Biological Laboratory
 2002-2003: Department of Biology, Ithaca College
 2001-2002: Department of Zoology, University of Wyoming
 Department of Entomology, Fisheries and Wildlife, Colorado State
 University
 2000-2001: Department of Biology, Montana State University
 Department of Zoology, University of Maryland
 Department of Entomology, University of Georgia
 1999-2000: Department of Ecology and Evolution, University of Chicago
 Department of Entomology, University of California, Davis
 1998-1999: Department of Entomology, Texas A & M University
 Department of Ecology and Evolution, Dartmouth College
 1997-1998: Department of Zoology, University of Toronto
 Department of Environmental and Forest Biology, SUNY Syracuse
 1996-1997: Department of Ecology and Evolution, Utah State University
 Department of Biology, University of Windsor
 Department of Environmental and Forest Biology, Syracuse University
 1995-1996: Department of Zoology, Ohio State University
 Department of Fisheries and Wildlife, Colorado State University
 Department of Biology, St. Lawrence University, Canton, NY
 1994-1995: Department of Biology, University of British Columbia, Vancouver
 Department of Entomology, University of Georgia
 Entomology Department, Cornell Agricultural Experiment Station,
 Geneva, NY
 Biology Department, Hobart and William Smith College, Geneva, NY
 1993-1994: Department of Biology, Deacon University, Melbourne, Australia
 Department of Ecology and Evolutionary Biology, Monash University,
 Melbourne, Australia
 Department of Zoology, University of Tasmania, Hobart
 Department of Biology, University of New England, Armidale,
 Australia
 CSIRO, Canberra, Australia
 ARC, Albury, New South Wales, Australia
 Department of Biology, James Cook University, Townsville, Australia
 Biology Department, Allegheny College, Pennsylvania
 Department of Entomology, Cornell University
 1992-1993: Department of Zoology, University of Wisconsin, Madison

Department of Zoology, Arizona State University
 Department of Zoology, University of New Hampshire
 Rocky Mountain Biological Laboratory
 1991-1992: Department of Entomology, University of Illinois
 1990-1991: Department of Biology, University of Delaware
 Department of Entomology and the Kansas Biological Survey,
 University of Kansas
 Department of Zoology, Duke University
 Department of Biology, Concordia University, Montreal
 1989-1990: Department of Entomology, University of Massachusetts
 Department of Biology, University of Michigan
 Department of Biology, SUNY, Buffalo
 Department of Entomology, Cornell University
 1988-1989: Department of Biology, Vassar College
 Department of Zoology, Ohio State University
 Institute of Ecosystem Studies, Milbrook, NY
 Rocky Mountain Biological Laboratory
 1987-1988: Department of Entomology, Geneva Station, Cornell University
 Department of Biology, Swarthmore
 Department of Biology, Fordham University
 Department of Biology, Colgate University
 Savannah River Ecology Laboratory
 Section of Ecology and Systematics, Cornell University
 Department of Entomology, Cornell University
 1986-1987: Department of Zoology, University of Canterbury, Christchurch, New
 Zealand
 Department of Zoology, University of Toronto, Erindale Campus
 Department of Biological Sciences, University of California, Santa
 Barbara
 Department of Limnology, University of Innsbruck, Innsbruck, Austria
 Limnologische Institut des Uni KN, Konstanz, Federal Republic of
 Germany
 Biological Station, Lunz, Austria
 1985-1986: Department of Biology, SUNY, Binghamton
 1984-1985: Department of Biology, Lehigh University
 Zoology Department, University of Vermont
 Rocky Mountain Biological Laboratory
 1983-1984: Department of Entomology, Cornell University
 Department of Natural Resources, Cornell University
 1982-1983: Division of Natural Sciences and Mathematics and Women in Science,
 Colgate University
 Department of Zoology, University of Oklahoma
 Department of Zoology, University of Calgary
 Department of Zoology, University of Maryland
 Department of Ecology and Evolution, SUNY, Stony Brook
 Department of Biology, University of North Carolina
 Wildlife Society, Cornell University
 1981-1982: Departments of Entomology and Zoology, Oregon State University
 Scripps Oceanographic Institute
 Undergraduate Entomology Seminar Series, Cornell University
 1980-1981: Department of Biology, Marist College, Poughkeepsie
 Department of Biology, University of New Mexico

- Department of Ecology and Evolutionary Biology, University of Arizona
 Department of EPO Biology, University of Colorado
 1979-1980: Rocky Mountain Biological Laboratory
 Section of Neurobiology and Behavior, Cornell University
 Department of Entomology, Cornell University
 Department of Natural Resources, Cornell University
 1978-1979: Department of Biological Sciences, University of California, Santa Barbara
 Department of Biology, Notre Dame University
 School of Natural Resources, University of Michigan
 Department of Entomology, Cornell University

Invited Symposia and Workshops

- 2015: Freshwater Science Special Session to honor the work of J. David Allan
 2014: Gordon Research Conference on Predator-prey interactions, Ventura, CA
 2014: Freshwater Science Symposium on Climate Change Effects on species interactions.
 2013: Driftless Area Regional Symposium, LaCrosse, Wisconsin
 2010: Entomological Society of America; Aquatic Insect Symposium
 2009: Dane County Wisconsin, Stream Monitoring Volunteers Workshop
 2009: Trout Unlimited workshop on stream insects
 2009: State of Wisconsin Stream Monitoring Volunteers Workshop
 2009: Ecological Society of America: Ecology of Place
 2005: Ecological Society of America: workshop on how to be successful in Ecology
 2000: North American Benthological Society: symposium on context dependency in stream ecology
 1995: American Society of Zoologists, symposium on experimentation in ecology
 1995: Savannah River Ecology Laboratory, symposium on innovative ideas in stream ecology
 1995: Bridgeport, NY, Workshop on methods for teaching aquatic resources education
 1994: Victoria Society of Limnologists, Melbourne, Australia
 1993: North American Benthological Society, symposium on larval-adult interactions
 1992: Cooperative Extension, Cornell University, Water Quality Workshop, Biological indicators of surface water quality
 1988: Behavior Symposium, University of Toronto
 1987: Workshop on factors controlling community structure and function in tropical and temperate streams. Flathead Lake Biological Station.
 1986: North American Benthological Society. Predator-prey interactions.
 1985: International Congress of Systematic and Evolutionary Biology, Sussex University, Brighton, England. Evolution of predator-prey systems.
 1985: (Delivered by LeeAnne Martinez): Ecological Society of America, University of Minnesota. Use of behavioral techniques in ecological studies.
 1984: Ecological Society of America, Colorado State University, Ft. Collins, CO. Predator-prey interactions.
 1983: (Delivered by LeeAnne Martinez): Entomol. Soc. Amer., Detroit, MI, Chemical interactions between predators and prey.
 1983: Eastern Branch Entomol. Soc. meetings, Providence, RI. Predation effects on stream community structure.
 1981: Ecological Society of America, Bloomington, IN. The importance of invertebrate predators in structuring stream insect communities.
 1980: Graduate Field of Ecology & Evolutionary Biology, Panel discussion on careers in Ecology for the Graduate Student Symposium

1980 - 2005: Annual Graduate Student Symposium- Ecology and Evolutionary Biology

TEACHING

At Cornell University

Stream Ecology, alternate years 1991 - 2004

Freshwater Invertebrate Biology, Annually 1980 – 1990, alternate years 1992 - 2002

Seminar in Aquatic Ecology, alternate years 1981 - 2004

Seminar on Aquatic Insect Physiology, 1982

At Rocky Mountain Biological Laboratory

Winter 1987-8, Winter ecology of streams

Summer 1979, Environmental Impact Studies

INVITED GUEST LECTURES

At Cornell University

1997: Stream conservation - Environmental Conservation

1996: Stream conservation - The Environment

1995: Stream conservation - Environmental Conservation

1993: Stream insects- Introductory Biology

1993: Riparian effects on streams-- Landscape Architecture

1989 - 1999: Aquatic insect ecology -- Introduction to Fisheries

1987: Aquatic insects of interest to fly fishermen -- Cultural Entomology

1983 - 1992: Stream ecology -- Limnology

1984: Community structure of aquatic insects -- Communities and Ecosystems

1982: Sampling animal populations -- Population Biology

1980-2: Aquatic Entomology for undergraduate majors

At the University of Wisconsin, Madison

2021- Guest lecture and lab for Basic and Applied Insect Ecology

2019 - Guest lecture and lab for Basic and Applied Insect Ecology.

2017 – Guest lecture and lab for Basic and Applied Insect Ecology.

2016 – Guest lecture for Insect Ecology Seminar class

2015 – Guest lecture and lab for Basic and Applied Insect Ecology.

2013, 2014, 2015, 2016, 2017 – Guest Lecture on stream invertebrates,
Environmental Sciences 900

2011, 2012, 2013 – Guest laboratory on stream invertebrates for Limnology class

2008 & 2009: Stream Ecology guest lecture for Ecology 460

2006, 2008 & 2010: Guest lectures on Competition, Disturbance, Drift and
Predation for Stream Ecology

2006, 2008 & 2010: Guest laboratories on stream invertebrate biology

2005: Guest instructor for Zoology 955, graduate seminar on “Opportunities and
Expectations”

At Rocky Mountain Biological Laboratory (summers)

2014 - 2021: Stream Ecology module for High School class

2012, 2013, 2014, 2015, 2016, 2018, 2021: Stream Ecology module for
undergraduates

2002: Aquatic Entomology

2001: Stream Ecology

1987, 1986: Environmental impact of a local problem -- Stressed Ecosystems

1984 - 1991: Stream Ecology -- Rocky Mountain Field Ecology Institute

1983, 1984, 1985, 1988: Aquatic Insects -- Entomology Course

Occasionally from 1981: Stream ecology for field biology classes

Other campuses

- 2014: University of San Francisco in Quito, Ecuador (Two week intensive course in Stream Ecology co-taught with Andrea Encalada)
- 2006: Freshwater Ecosystems, University of Canterbury, NZ (9 Lectures)
- 1997: Aquatic Insect Respiration, SUNY Syracuse
- 1994: The River Continuum Concept, Allegheny College
- 1994: Predator-prey interactions in streams, Hobart and William Smith
- 1994: Predator-prey interactions in streams: Monash University, Melbourne, Australia
- 1982: Lecturer in Nordic Council of Ecology Course on Aquatic predator-prey systems. University of Lund, Sweden.
- 1980: Lecture on predator-prey interactions in streams for Aquatic Ecology class at Wells College, Aurora, NY (Professor Thomas Vawter).
- 1978: Aquatic Insects. Limnology Course, University of Wisconsin, Madison (Professor John Magnuson).
- 1977-1979: Stream Ecology. Introductory Ecology Course, University of Wisconsin, Madison (Professor Stanley Dodson).

POSTDOCTORAL ASSOCIATES

- Alvarez, Maruxa, 2004 – 2006 (RMBL and Cornell)
- Dahl, Jonas, 1998- 2000 (RMBL and Cornell)
- McIntosh, Angus R., 1995-7 (RMBL and Cornell)
- Batzer, Darold, 1992-4 (Cornell)
- Flecker, Alexander S., 1990-91, 1992-4 (Cornell)
- Kerans, Billie L., 1989-90 (RMBL and Cornell)
- Smith, Bruce P., 1982-4 (Cornell)

SABBATICAL VISITORS

- Wissinger, Scott A., 1990-1991 (Cornell)
- Ward, James V., 1982-3 (Cornell)

GRADUATE MAJORS – Cornell University; *research conducted at RMBL

- Bukantis, Robert T., M.S., 1983. Comparative studies on the ecology of two sympatric stoneflies *Phasganophora capitata* and *Acroneturia carolinensis*.
- *Kratz, Kim W., 1983-1985, Ph.D. program, 2 yrs, continued at UCSB
- *Martinez, LeeAnne, Ph.D., 1987. Sensory mechanisms underlying the predator-prey interaction between perlodid stonefly nymphs and their mayfly prey.
- Delucchi, Carla M., Ph.D., 1988. A comparison of community structure, life histories and movement patterns of benthic macroinvertebrates between permanent and temporary streams.
- Moreira, Gilson, Ph.D. 1992. Reproductive biology of the stream-dwelling stonefly, *Agnatina capitata* (Pictet) (Plecoptera: Perlidae)
- *Vance, Sarah, Ph.D. 1996. The effect of mermithid parasitism on the behavior and ecology of its mayfly host.
- Rango, Jessamy J., MS 1997. Aquatic insect communities associated with the Northern Pitcher Plant.
- Lytle, David A, Ph. D. 2000. Disturbance regimes and life history evolution.
- Bernhardt, Emily, Ph. D. 2001. Nutrient demand and nitrogen processing in streams of the Hubbard Brook Experimental Forest.

- *Ode, Peter, R., Ph.D. 2002. The role of competition in the foraging ecology of two herbivorous stream mayflies.
- *Anderson, Chester R. MS 2002. Tinajas of southern Utah: reproductive strategies and the habitat template
- *Caudill, Christopher C., Ph. D. 2002. Metapopulation biology of the mayfly *Callibaetis ferrugineus hageni* in high-elevation beaver ponds.
- Watson, Wendy, 2002. Non-thesis MS degree.
- Macneale, Kate, Ph. D. 2003. Life history and dispersal of a stonefly, *Leuctra ferruginea* (Plecoptera; Leuctridae), in the Hubbard Brook Experimental Forest, New Hampshire
- *Encalada, Andrea, Ph.D, 2005. Patterns, mechanisms, and consequences to population dynamics of selective oviposition by *Baetis bicaudatus* (Ephemeroptera: Baetidae)

GRADUATE MAJORS – University of Wisconsin, * research conducted at RMBL

- *Fuller, Matthew, MS, 2009. Beaver pond morphology as a tool for predicting changes downstream. Zoology
- *Cromwell, Kara, PhD, 2018. Host-parasite ecology of *Baetis bicaudatus* mayflies and *Gasteromermis* spp. Nematodes in high altitude streams. Integrative Biology

MINOR STUDENTS

Completed theses

- Álvarez, Maruxa (PhD), Univ. of Vigo, Spain (External Reviewer) - 2004
- Anholt, Bradley (MS), Univ. of Calgary (External Reviewer) - 1982
- Baird, Owen (MS) – Cornell, Natural Resources - 2000
- Barker, Heather (MS) – Cornell, Natural Resources - 2000
- Bartel, Savannah (Ph.D) – UW, Integrative Biology - 2022
- Butkas, Katrina (MS) – UW, Center for Limnology- 2008
- Booth, Michael (PhD) – Cornell, Ecology and Evolutionary Biology - 2011
- Chrisman, Beth (PhD.) – Cornell, Ecology and Evolutionary Biology - 2000
- Donlon, Josh (PhD) – Cornell, Ecology and Evolutionary Biology - 2007
- Dorworth, Carol (MS) - Cornell, Natural Resources - 1984
- Dreyer, Jamin (PhD) – UW Zoology- 2013
- Edgerly, Janice (PhD) – Cornell, Entomology - 1985
- Evans, Richard (MS) – Cornell, Natural Resources - 1987
- Fitzgerald, Meghan (PhD) – UW, Zoology - 2016
- Foltz, Sarah (MS) – UW, Zoology - 2008
- Forrester, Graham (PhD) - University of New Hampshire, Zoology-1992
- Galbreath, Gregory (MS) – Cornell, Natural Resources 1994
- Gerould, Sarah (PhD) – Cornell, Natural Resources - 1985
- Goforth, Reuben (PhD) – Cornell, Natural Resources - 1999
- Hansen, Michael (MS) – Cornell, Natural Resources - 1983
- Hickman, Caleb (PhD) – UW Zoology - 2013
- Kain, Susan (PhD) – Cornell, Neurobiology and Behavior - 1998
- Kaminski, John (PhD) Cornell, Ecology and Evolutionary Biology - 1983
- Koch, Benjamin (PhD) – University of Wyoming - 2011
- Koning, Aaron (PhD) – UW, Integrative Biology - 2018
- Kratz, Kim W. (PhD) - University of California, Santa Barbara - 1997
- Lewis, Greg (PhD) – Cornell, Ecology and Evolutionary Biology - 1997
- Mayer, Marilyn (MS) – Cornell, Ecology and Evolutionary Biology - 1986
- McCormick, Amanda (PhD) – UW, Integrative Biology - 2020
- McIntyre, Peter (PhD) – Cornell, Ecology and Evolutionary Biology - 2006

Mitchell, David (PhD) – Cornell, Ecology and Evolutionary Biology - 1985
Moslemi, Jennifer (PhD) – Cornell, Ecology & Evolutionary Biology - 2010
Mullens, Bradley (PhD) – Cornell, Entomology - 1982
Raveret, Monica (PhD) – Cornell, Neurobiology and Behavior - 1987
Remsburg, Alysa (PhD) – UW, Zoology - 2007
Robertson, Martha (MS, PhD) – Cornell, Environ Education - 1982, 1985
Sobczak, William (PhD) – Cornell, Ecology & Evolutionary Biology - 1998
Spence, Brian (MS) – Cornell, Natural Resources - 1988
Strayer, David (PhD) – Cornell, Ecology and Evolutionary Biology - 1984
Suren, Alastair (PhD)- University of Canterbury, New Zealand- 1992
Tarrant, Christine (PhD) – Cornell, Entomology - 1983
Tjossem, Sara (MS) – Cornell, Ecology and Evolutionary Biology - 1989
Van Offelen, Henry (MS) – Cornell, Natural Resources - 1990
Vasquez, Maria (MS) – Monash University, Australia (External) - 1998
Walde, Sandra (PhD) – University of Calgary (External reviewer) - 1985
Ward, Jessica (PhD) – Cornell, Ecology and Evolutionary Biology - 2005
Warren, Dana (MS) – Cornell, Natural Resources 2002
Weaver, Scott (MS) – Cornell, Entomology - 1982
Weik, Andy (MS) – Cornell, Natural Resources- 1994

VISITING GRADUATE STUDENTS MENTORED AT RMBL

Todd Palmer – University of Wisconsin Madison - 1996
Paul Reich – Melbourne University - 2001
Ash McLean – Melbourne University – 2011
Elise King – Melbourne University – 2012
Nixie Boddy – University of Canterbury – 2014
Margot Buckelew – Yale University - 2020

UNDERGRADUATE ADVISEES (*completed undergraduate honors theses)

*Brogan, Mairead
Buecke, Kyle
Burnett, Susan
Chabot, Louis
Cohen, Myra
Colles, Rebecca
Cumming, Margot (UW 3-year project)
Fishel, Chris
*Hamilton, Jasmine
Hardy, Nate
*Harper, Matthew (Cornell Presidential Research Scholar)
*Hernandez, Stephanie
Hornby, Gregory
*Huang, Ming
Jenkins, Andrew
*Lund, Jessica (UW senior Honors)
*Keats, Rachel
Klein, Desiree
Manka, Michale
McLennon, Alison
McMahon, Nicole
Moore, Lindsay
*Napolitano, Joseph

O'Hara, Colleen
Osvatic, Jay
*Robbins, Carrie (UW Senior Honors)
Ruiz, Anaiz
Ryan, Steven
Sendziak, Keith
*Smith, Kevin
Sobolewski, Margaret
Spragg, James
*Svenson, Gavin
Taisey, Allison
*Taylor, Alani
*Taylor, Bradley
Vargas, Vanessa
Walcott, Sam
Weinkauf, Erin
Wells, Theresa

NSF REU and other undergraduate students mentored at RMBL

Brogan, Mairead (2020 & 2021)
Gross, Sean (1996 & 1997)
Hamilton, Jasmine (2013 & 2014)
Harper, Matthew (2003)
Hernandez, Stephanie (2011 & 2014)
Marko, Lisa (2004)
Realzola, Edward (2010)
Ruiz, Anaiz (2019 & 2020)
Sparrow-Scinocca, Bridget (2017)
Stone, Nicole (2007)
Taylor, Bradley (1992)
Yang, JaHyun (2018)

High School Students mentored at the Rocky Mountain Biological Lab

Barclay-Hart, Rita (2016, 2017, 2019, 2021)
Brogan, Mairead (2018, 2019)
Haskell, Havalin (2020, 2021, 2022)
Swift, Benjamin (2015, 2016)

NSF RET students mentored at the Rocky Mountain Biological Lab

Lisa Hart (2012)
Bobby Pogoloff (2013)

OTHER PROGRAMS INVOLVING UNDERGRADUATES AT CORNELL

Faculty Fellow for Ecology House – 1991 - 2002
Faculty Advisor for Cornell Women's Lacrosse Team – 1999 - 2005
Biological Sciences Explorations – “Bugging Water Quality” – every semester
since inception of the program until 2005

CORNELL COMMITTEES

Entomology Departmental

Curriculum Committee, 1986-1989, Chair 1987-1989, 1994- 2005
Undergraduate Advising Coordinator, 1986-1989, 2001 - 2005

Undergraduate Honors Coordinator, 1983-6, 1994- 2005
Interactions Committee, chair, 1994- 6
Acting Chair, fall 1990, fall 1995
Graduate Faculty Representative, 1989-92
Executive Committee, 1986-92, 1995- 98
Awards Committee, 1985-6
Building Dedication Committee, 1985-6
Jugatae (Grad. Students in Entomology) advisor, 1980-4
Seminar Coordinating Committee - chairperson, 1981-4
Sexual Harassment Committee - chairperson, 1981-4, 1989
Thesis Option Committee, 1980

All Campus at Cornell

Campus Creek Advisory Committee – 2001 - 2005
Cornell Plantations Natural Areas Committee – 1990 – 2005
Faculty Council of Representatives, 1981-4 (Physical Education Committee)
Cornell Experimental Ponds Evaluation Committee, 1981-4
Equal opportunity committee to identify qualified professional women, 1981
Committee of Cornell Limnologists, 1982-4
Search Committee - Medical Entomologist, Department of Entomology,
1989-90
Search Committee - Fisheries Biologist, Dept. of Natural Resources, 1983
Search Committee - Limnologist, Section of Ecology & Systematics, 1983-5
Search Committee - Invertebrate Zoologist, Ecology & Systematics, 1984-6

PROFESSIONAL SOCIETIES

American Society of Limnology and Oceanography
Ecological Society of America
North American Benthological Society (Society for Freshwater Science)
Rocky Mountain Biological Laboratory
Societas Internationalis Limnologiae

JOURNALS FOR WHICH I REVIEW MANUSCRIPTS

American Midland Naturalist
The American Naturalist
Archiv für Hydrobiologie
Behavioral Ecology and Sociobiology
The Biologist
Canadian Journal of Fisheries and Aquatic Sciences
Canadian Journal of Zoology
Ecological Society of America (abstracts)
Ecology and Ecological Monographs
Evolution
Florida Entomologist
Freshwater Biology
Hydrobiologia
Journal of Freshwater Ecology
Journal of Insect Behavior
Journal of the Kansas Entomological Society
Journal of the New York Entomological Society
Journal of the North American Benthological Society
Limnology and Oceanography
Oikos

Oecologia
Science
Southwestern Naturalist
Transactions of the American Fisheries Society

BOOK CHAPTER REVIEWS

Cole, G. A. 1983. Limnology, Mosby (Chapter on Stream Ecology)
Fontaine, T.D. II & S.M. Bartell. 1983. Dynamics of Lotic Ecosystems. Ann Arbor Science (Chapter 16)
Matthews, W. J. Community and Evolutionary Ecology of North American Stream Fishes. Univ. Oklahoma Press. (one chapter)
Hutchinson, G. E. Treatise on Limnology (4th volume) -- chapters on aquatic insects.
Thorp, J. H. and A. P. Covich. Ecology and Taxonomy of Freshwater Invertebrates -- chapter on aquatic insects.

INSTITUTIONS FOR WHICH I REVIEW GRANT PROPOSALS

Center for the Environment - Cornell University
Council for the International Exchange of Scholars
Fish and Wildlife Service, US Department of Interior
HATCH, Cornell University
Hudson River Foundation
National Geographic Society
National Research Council
National Science Foundation
Organization for Tropical Studies
United States-Israel Binational Science Foundation

ENVIRONMENTAL CONSULTING, EDUCATION and OUTREACH

2021 – Advised Student Space Flight Experiments Program for 7th graders in Michigan
2021 – Taught local girl scout troop about New Zealand Mud Snails at Black Earth Creek
2020 - Taught second grade students (virtually) about stream insects at Brown International Academy, Denver, CO
2020 – Presentation for the Dane County Watershed Group on invasion of the New Zealand Mud Snails
2020 – Consultant for the Sugar River Watershed group re. the New Zealand Mud Snail invasion
2019 – Taught Kindergarten students about stream insects at Brown International Academy, Denver, CO
2019 – Taught Malcolm Shabbaz High School students about the invasion of New Zealand Mud Snails in Black Earth Creek
2018 – Taught small children about stream insects at Highlands Academy, Denver, CO
2017 - Lecture on stream research for Crested Butte community (RMBL)
2015 – Taught Middleton High School students about the New Zealand Mud Snail invasion of Black Earth Creek.
2013 – 2015: Science Affair outreach event at the Rocky Mountain Biological Laboratory
2013 – 2019: Biological Monitoring of Black Earth Creek stream restoration projects (in collaboration with students: Kara Cromwell, Jay Osvatic, Erin Weinkauff, Margaret Sobolewski, Taylor Maier and Kaitlin Ring)
2014 – 2019: Sampling Black Earth Creek for invasive New Zealand Mud Snails; volunteer sample sorter for the Wisconsin DNR and the River Alliance.

- 2013 – present: Pro bono consultant to the Illinois EPA with respect to impacts and suggestions for the clean up of industrial contamination of Lake DePue.
- 2012 – Wrote a module on stream insects for Digital RMBL
- 2011 – present: The Wisconsin Department of Natural Resources: Data analysis of biomonitoring protocols
- 2010 – present: The Wisconsin Department of Natural Resources: Revision of the Best Management Practices for protection of aquatic resources in Wisconsin.
- 2009 – present: The Red Lady Coalition: Impacts of proposed molybdenum mining on the streams of Gunnison County, Colorado (pro bono)
- 2008- present: The Wisconsin Department of Natural Resources: Revision of water quality indices for volunteer monitoring of macroinvertebrates in streams.
- 2006 – present: “Bugs on the Creek” outreach program for “Trout Day”; a community outreach on Black Earth Creek.
- 2006 – present: Outreach environmental education program about streams for kids and adults at RMBL
- 2006 – present: Environmental Law and Policy Center: Protection of aquatic resources in Wisconsin and neighboring mid western states (pro bono)
- 2005- present: High Country Citizens Alliance; Coal Creek Watershed Coalition – Monitoring of Coal Creek and tributaries during clean-up of abandoned mining spoils (Peanut Mine and Standard Mine: An EPA Superfund site) (pro bono)
- 2001: Cornell University Environmental Engineering – Effects of expansion of a parking lot on Cascadilla Creek, Ithaca, NY (pro bono)
- 2000 – 4: Cornell University Grounds Department – Effects of gravel removal on habitat quality of Cascadilla Creek, NY (pro bono)
- 1999 – 2000: Fisher Mining Company, Pennsylvania. Effects of manganese on stream organisms
- 1999 - 2000: EcoLogic – Effects of organic enrichment on tributaries of Onondaga Lake, NY.
- 1999: NY DEC – Effects of a coal spill on the invertebrates of the Cayuga Inlet, Ithaca, NY (pro bono)
- 1997 – 1998: NY DEC – Effects of a diesel oil spill on the invertebrates of the Cayuga Inlet, Ithaca, NY (pro bono)
- 1997: NY DEC – Effects of a gasoline spill on the invertebrates of Fall Creek, Ithaca, NY (pro bono)
- 1996: Town of Ithaca: Effects of riparian restoration on invertebrates of Cascadilla Creek, NY (pro bono)
- 1995: Cornell University Environmental Engineering – Effects of an abandoned refuse site on Cascadilla Creek, Ithaca, NY (pro bono)
- 1994: Town of Ithaca: Effects of repair of water main on the invertebrates of Cascadilla Creek, NY (pro bono)
- 1993: Cornell University Environmental Engineering – Comments on Generic EIS for expansion of the University into the Cornell Orchards area (pro bono)
- 1992: POWER, Gunnison, Colorado – Potential effects of water abstraction from high elevation streams (pro bono)
- 1991: Cornell University Environmental Engineering – Effects of silt removal on Fall Creek, Ithaca NY (pro bono)
- 1985: Cornell University Environmental Engineering - Effects of a chemical treatment plant in Ithaca, NY on the receiving streams (pro bono)
- 1976 – present: Rocky Mountain Biological Laboratory – Long term biological monitoring of streams in the Upper East River drainage basin – (pro bono)