

Dominic Thomas Chaloner

Curriculum Vitae

Contact Information

Department of Biological Sciences
University of Notre Dame
Notre Dame, IN 46556-0369
USA

Phone: 574-631-2665
Fax: 574-631-7413
Email: chaloner.1@nd.edu

Education

- Ph.D. Zoology 1995 University College (University of London), UK.
- B.S. (Hons.) Zoology 1991 University College (University of London), UK.

Research Interests

Aquatic biology; ecosystem resource subsidies; Pacific salmon; environmental change; aquatic decomposers; ecotoxicology of ionic liquids; use of stable isotopes and artificial systems in aquatic research; undergraduate research.

Professional Experience

- 2005 – Present *Assistant Research Professor*
Dept. of Biological Sciences, University of Notre Dame, Notre Dame, IN, USA.
- 2000 – 2004 *Post-Doctoral Research Associate*
Influence of marine nutrients from salmon on stream ecosystems. Dept. of Biological Sciences, University of Notre Dame, Notre Dame, IN, USA. Advisor: G.A. Lamberti.
- 1997 - 1999 *Post-Doctoral Research Associate*
Invertebrate colonization of Pacific salmon carcasses in southeastern Alaska streams. Dept. of Entomology, Michigan State University, East Lansing, MI, USA *and* Pacific Northwest Research Station (USDA Forest Service), Juneau, AK, USA. Advisor: R.W. Merritt.
- 1996 *Post-Doctoral Research Associate*
Invertebrate colonization of Alaskan glacial melt streams. School of Geography, University of Birmingham, Edgbaston, UK. Advisor: A.M. Milner.
- 1995 - 1996 *Post-Doctoral Research Associate*
Feeding by anopheline mosquito larvae. Dept. of Biology, University College (University of London), London, UK. Advisor: R.S. Wotton.

Professional Service

- *Student presentations and posters judge*
Juneau High School Science Fair 1999; North American Benthological Society Annual Meeting 2000 – 2006; Northern Indiana Science Fair 2000 – 2005.

- *Ad hoc reviewer*
Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative, American Midland Naturalist, Aquatic Microbial Ecology, Canadian Journal of Fisheries and Aquatic Science, Canadian Journal of Water Quality, Ecology, Ecosystems, Fisheries, Hydrobiologia, Journal of Applied Ecology, Journal of Animal Ecology, Journal of the North American Benthological Society, Limnology and Oceanography, Methods in Stream Ecology, Minnesota Sea Grant, National Park Service (US Department of Interior), National Science Foundation, Pacific Northwest Research Station (USDA Forest Service).
- *Mentor*
Supervision, guidance, recommendations, and project development for >25 volunteers, technicians, and students (high school, undergraduate, and graduate).
- *Committees*
Undergraduate Research
Jordan Hall Galleria Information Displays

Teaching Experience

- 2000 - Present *Research Associate, Faculty*

Instructor

Earth in Crisis - Current Environmental Issues (BIOS 10107; Spring and Fall 2003-05) is a 3 credit non-science major's course that considers the most critical environmental issues in the context of important ecological ideas and concepts. The course intent is to inform non-science major students about environmental issues while increasing their awareness of ecological science through classroom teaching and guided discussion of scientific literature by undergraduate teaching assistants.

General Ecology Lecture (BIOS 30312; Spring and Fall 2006) is a 3 credit science major's course that examines the distribution and abundance of organisms in the natural world. Broad course objectives are to increase awareness about the natural world while contributing to a science education by integrating ecology with other disciplines. Specific course objectives are to enable students to understand key concepts in ecology while developing their critical thinking by discussing the primary literature. The course introduces core principles, classic studies, and current field and laboratory research in ecology.

General Ecology Laboratory (BIOS 31312; Fall 2006) is a 1 credit laboratory course associated with BIOS 30312. Students undertake a variety of field and laboratory exercises designed to illustrate classic studies in ecology.

Mentor

Human Genetics, Evolution, and Society (BIOS 10101; Spring and Fall 2004-05) is a 3 credit non-science major's course in which the principles of human genetics are taught using the cornerstones of modern biology, genetics and evolution. This course was partially funded by grants to Harvey Bender from the Lumina Foundation for Education, and is innovative in its use of undergraduate teaching assistants (UTA) to provide peer-directed learning. My responsibilities included management and mentorship of ten UTAs, implementation of educational technology, and classroom teaching when required.

Undergraduate Research (BIOS 48498; Spring and Fall 2006) is 1-2 credit (8 hours per credit hour) in which undergraduates engage in research over the course of the semester, depending upon their experience and interests.

Teaching Apprenticeship (BIOS 30671; Spring 2006) is a 1 credit course that provides graduate students with experience of various aspects of undergraduate teaching.

Introduction to Research (BIOS 29498; Spring 2006) is a 1 credit course that provides undergraduate students with an introduction to scientific research to prepare them to engage in their own research with a faculty mentor.

Laboratory coordinator

Biostatistics (BIOS 411T/41AT; Spring semester 2005) is the laboratory component of a science majors course (BIOS 411) which covers the basic principles of statistics used in the life sciences. Responsibilities included management and mentorship of 12 graduate and undergraduate TAs for weekly lab classes, together with classroom teaching as and when required.

Guest instructor

Biostatistics (BIOS 411), *Biological Sciences Laboratory* (BIOS 161), *Genetic Technology* (BIOS 191), *Stream Ecology* (BIOS 527).

- 1991 - 1995 *Graduate Student*

Teaching Assistant

Laboratory classes for *Zoology*, *Ecology*, and *Aquatic Biology* courses. Responsibilities included preparation and teaching of classes.

Professional Affiliations

Freshwater Biological Association (UK); North American Benthological Society; Royal Entomological Society (UK).

Grants, Awards, and Honors

- Co-PI USDA-CSREES NRI Competitive grant, University of Notre Dame (2006 - 2008).
- Co-PI NOAA Non-Competitive grant, University of Notre Dame (2006 – 2007).
- USDA Forest Service Cooperative Research Agreement (PNW 96-3012-2-CA), Michigan State University (1997 - 1999).
- Graduate School supplementary research grant, University College London (1993 and 1995).
- M. Brown Memorial scholarship, University College London (1993).
- SERC/BBSRC postgraduate studentship, University College London (1992 - 1995).
- Fantham Memorial postgraduate scholarship, University College London (1991).
- Frances Perch Bedford prize (top zoology student in class), University College London (1991).

Publications

- **Chaloner, D.T.**, G.A. Lamberti, and A.D. Cak. Influence of salmon carcasses and carcass analogs on water chemistry and epilithon of southeastern Alaska streams. *Journal of North American Benthological Society*, in preparation.

- Tiegs, S.D., **D.T. Chaloner**, P. Levi, J. Ruegg, and G.A. Lamberti. Tipping the balance: timber harvest alters the role of Pacific salmon as ecosystem engineers in Southeast Alaska streams. Ecological Applications, in preparation.
- Crenshaw, C.L., C.N. Dahm, R.T. Edwards, J.B. Fellman, E.C. Norberg, and **D.T. Chaloner**. Going against the current: nutrient co-limitation in salmon streams in Southeast Alaska. Ecology, in preparation.
- Cak, A.D., **D.T. Chaloner**, and G.A. Lamberti. Influence of spawning Pacific salmon on southeastern Alaskan estuaries. Aquatic Sciences, submitted.
- Graham, B.S., P.H. Ostrom, **D.T. Chaloner**, and F. Li. Temporal and spatial variability in the incorporation of marine-derived nutrients delivered by spawning salmon to Alaskan streams. Aquatic Sciences, submitted.
- **Chaloner, D.T.**, G.A. Lamberti, A.D. Cak, N.L. Blair, and R.T. Edwards. 2007. Inter-annual variation in the water chemistry and epilithon responses to Pacific salmon spawners in an Alaskan stream. *Freshwater Biology* 52: 478-490.
- **Chaloner, D.T.**, G.A. Lamberti, R.W. Merritt, N.L. Mitchell, P.H. Ostrom, and M.S. Wipfli. 2004. Spatial variation in the effects of spawning Pacific salmon on three southeastern Alaska streams. *Freshwater Biology* 49: 587-599.
- Wipfli, M.S., J.P. Hudson, J.P. Caouette, and **D.T. Chaloner**. 2003. Marine subsidies in freshwater: salmon carcasses increase the growth rate of stream-resident salmonids. *Transactions of the American Fisheries Society* 132: 371-381.
- **Chaloner, D.T.**, K.M. Martin, M.S. Wipfli, P.H. Ostrom, and G.A. Lamberti. 2002. Marine carbon and nitrogen isotopes in southeastern Alaska stream food webs: evidence from artificial and natural streams. *Canadian Journal of Fisheries and Aquatic Science* 59:1257-1265.
- **Chaloner, D.T.**, and M.S. Wipfli. 2002. Influence of decomposing Pacific salmon carcasses on macroinvertebrate growth and standing stock in southeastern Alaska streams. *Journal of the North American Benthological Society* 21: 430-442.
- **Chaloner, D.T.**, M.S. Wipfli, and J.P. Caouette. 2002. Mass loss and macroinvertebrate colonization of Pacific salmon carcasses in southeastern Alaskan streams. *Freshwater Biology* 47: 263-274.
- Wipfli, M.S., J.P. Hudson, **D.T. Chaloner**, and J.P. Caouette. 1999. Influence of salmon spawner densities on stream productivity in Southeast Alaska. *Canadian Journal of Fisheries and Aquatic Science* 56: 1600-1611.
- Wotton, R.S., **D.T. Chaloner**, C.A. Yardley, and R.W. Merritt. 1997. Growth of *Anopheles* mosquito larvae on dietary microbiota in aquatic surface microlayers. *Medical and Veterinary Entomology* 11: 65-70.
- **Chaloner, D.T.**, and R.S. Wotton. 1996. Tube building by larvae of three species of midge (Diptera: Chironomidae). *Journal of the North American Benthological Society* 15: 300-307.
- **Chaloner, D.T.**, and R.S. Wotton. 1996. Substratum preferences by larvae of three species of midge (Diptera: Chironomidae). *Hydrobiologia* 339: 93-99.
- Wotton, R.S., **D.T. Chaloner**, and P.D. Armitage. 1996. Midges in slow sand filters - their colonization, role in filtration and potential nuisance value. Pages 149-157 in N. Graham & R. Collins (eds.) *Advances in Slow Sand and Alternative Biological Filtration*. John Wiley & Sons, Chichester.

Selected Published Abstracts (of >30)

- **Chaloner, D.T.**, G.A. Lamberti, N.L. Blair, and R.T. Edwards. 2006. Variation in the effects of salmon-derived nutrients on stream ecosystems in southeastern Alaska. *NABS Bulletin* 23 (1): 337.
- **Chaloner, D.T.**, G.A. Lamberti, A.D. Cak, R.T. Edwards, and N.L. Mitchell. 2005. Long-term studies of the effects of salmon spawners on stream ecosystems. *NABS Bulletin* 22 (1): 179.
- **Chaloner, D.T.**, A.D. Cak, and G.A. Lamberti. 2004. Salmon biology and resource subsidies in a changing global climate. *NABS Bulletin* 21(1): 279.
- **Chaloner, D.T.**, G.A. Lamberti, A.D. Cak, J.P. Hudson, J.L. Lessard, R.W. Merritt, P.H. Ostrom, J.L. Tank, and M.S. Wipfli. 2003. Do salmon carcasses and pellets of processed salmon carcasses have the same effects on streams? *NABS Bulletin* 20(1): 180.
- **Chaloner, D.T.**, R.T. Edwards, G.A. Lamberti, R.W. Merritt, P.H. Ostrom, and M.S. Wipfli. 2002. Do spawning Pacific salmon increase the productivity of freshwater ecosystems? *NABS Bulletin* 19(1): 261.
- **Chaloner, D.T.**, G.A. Lamberti, M.S. Wipfli, R.W. Merritt, P.H. Ostrom, N.L. Mitchell, J.L. Lessard, B.S. Graham, B.E. Wright, and J.P. Hudson. 2001. Ecological consequences of salmon enrichment for streams: where do marine-derived nutrients go? *NABS Bulletin* 18(1): 184.
- **Chaloner, D.T.**, M.S. Wipfli, J.P. Hudson, J.P. Caouette, and K.M. Martin. 2000. Carcass-invertebrate interactions: implications for the influence of Pacific salmon on ecosystem productivity. *NABS Bulletin* 17(1): 107.
- **Chaloner, D.T.**, and M.S. Wipfli. 1999. Colonization and processing of salmon carcasses by macroinvertebrates in Southeast Alaskan streams. *NABS Bulletin* 16(1): 197.
- **Chaloner, D.T.**, and M.S. Wipfli. 1998. Aquatic invertebrates colonizing salmon carcasses in Southeastern Alaskan streams. *NABS Bulletin* 15(1): 210.
- **Chaloner, D.T.**, and R.S. Wotton. 1995. Particles and the coexistence of three species of midge (Diptera: Chironomidae). *NABS Bulletin* 12(1): 123.

Selected Presentations (of >20)

- Long-term studies of the effects of salmon spawners on stream ecosystems. 52nd meeting of NABS, New Orleans, LA, USA (May 2005).
- Do salmon carcasses and pellets of processed salmon carcasses have the same effects on streams? 51st meeting of NABS, Athens, GA, USA (May 2003).
- Spawning Pacific salmon: what are they good for? **Invited.** Dept of Biology, Eastern Michigan University, Ypsilanti, MI, USA (February 2003).
- Do spawning Pacific salmon increase the productivity of freshwater ecosystems? 50th meeting of NABS, Pittsburgh, PA, USA (May 2002).
- Ecological consequences of salmon enrichment for streams: where do marine-derived nutrients go? 49th meeting of NABS, La Crosse, WI, USA (June 2001).
- Influence of enrichment by Pacific salmon on macroinvertebrate growth and standing stock in southeast Alaska streams. International Salmon Nutrient Conference: Restoring Nutrients to Salmonid Ecosystems, Eugene, OR, USA (March 2001).

- Carcass-invertebrate interactions: implications for the influence of Pacific salmon on ecosystem productivity. **Invited.** 48th meeting of NABS, Keystone, CO, USA (May 2000).
- Colonization and processing of salmon carcasses by macroinvertebrates in southeast Alaskan streams. 47th meeting of NABS, Duluth, MN, USA (May 1999).
- Aquatic and terrestrial invertebrates colonizing salmon carcasses in southeast Alaska. **Invited.** AFS Western Division meeting, Anchorage, AK, USA (October 1998).
- Invertebrate fauna of salmon carcasses. **Invited.** University of Alaska Southeast, Juneau, AK, USA (June 1998).
- Invertebrates colonizing anadromous salmonid carcasses in southeastern Alaskan freshwater systems. AFS Alaska Chapter meeting, Juneau, AK, USA (November 1997).
- The biology of chironomid midges in slow sand filter beds. **Invited.** Dept. of Biology, Birbeck College, University of London, UK (June 1996).
- Particles and the coexistence of three species of midge (Diptera: Chironomidae). 43rd meeting of NABS, Keystone, CO, USA (June 1995).

References

- Dr. H.A. Bender. Professor. Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556-0369, USA. Email: bender@nd.edu.
- Dr. C.F. Kulpa. Professor and Chair. Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556-0369, USA. Email: Charles.F.Kulpa.1@nd.edu
- Dr. G.A. Lamberti. Professor and Assistant Chair. Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556-0369, USA. Email: lamberti.1@nd.edu
- Dr. R.W. Merritt. Professor and Chair. Department of Entomology, Michigan State University, East Lansing, MI 48824-1115, USA. Email: merrittr@msu.edu
- Dr. R.S. Wotton. Professor. Department of Biology, University College London, Gower St., London WC1E 6BT, UK. Email: ucbt212@ucl.ac.uk