

W. Bryan Milstead PhD
curriculum vitae

CURRENT POSITION

Research Ecologist
U.S. Environmental Protection Agency
Office of Research and Development
National Health and Environmental Effects Research Laboratory
Atlantic Ecology Division
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EDUCATION

- ❖ **Ph.D. Biology** Northern Illinois University 1995 - 2000
- ❖ **M.S. Biology** University of Oklahoma 1980 - 1983
- ❖ **B.S. Biology** Southwest Missouri State University 1974 – 1979

APPOINTMENTS

- ❖ **Adjunct Professor:** May 2002 to Present. University of Rhode Island, Department of Natural Resources Science, Kingston RI 02881 USA.
- ❖ **Adjunct Professor:** July 2000 to Present. Northern Illinois University, Department of Biological Sciences, DeKalb IL 60115 USA.
- ❖ **Profesor Ad Honorem:** March 1991 to Present. Universidad de La Serena, Departamento de Biología, Facultad de Ciencias, La Serena Chile.
- ❖ **Investigador Invitado:** October 1985 to December 1987. Universidad de los Andes, Facultad de Ciencias. Mérida Venezuela.

RESEARCH EXPERIENCE

- ❖ **Ecosystem Services:** Currently reviewing and selecting indicators of ecosystems services for Northeastern Lakes as a member of the U.S. EPA National Lakes Assessment Analysis team and the Reactive Nitrogen Ecosystem Services Research Program.
- ❖ **Water Quality Modeling:** Expertise in the use of the USGS SPARROW model to predict nutrient loads to freshwater hydrologic networks and estuarine endpoints and the use of Vollenweider equations to estimate nutrient

concentrations in lakes from loadings. Advanced understanding of the statistical relationships among water quality variables and ecosystem services in lakes. Experience in the use of GIS, relational databases and R to model nutrient flux in lakes.

- ❖ **Inventory and Monitoring:** Developed and implemented an Inventory and Monitoring Program for a network of eight coastal National Parks in the United States. Management of an extensive ecological monitoring program in Organ Pipe Cactus National Park and the Galapagos National Park (Ecuador). Coordination and implementation of numerous field inventories and monitoring studies of algae, plants, invertebrates and vertebrates in a wide range of aquatic and terrestrial systems worldwide. Skilled in the use of GIS (geographic information systems), GPS (global positioning systems) and statistics in the design, implementation and analysis of monitoring studies.
- ❖ **Population & Community Ecology:** Involved in multiple experimental studies examining predator-prey, competition and plant-animal interactions in both aquatic and terrestrial habitats. Extensive experience in the estimation of animal abundance, demographic parameters, distribution patterns and habitat use. Conducted studies on the effect of El Niño Southern Oscillation Events on plant and animal population dynamics. Led a study on the use of radio telemetry to monitor and track carnivore movements.
- ❖ **Aquatic Ecology:** Conducted research in Venezuela, Trinidad and Mexico on fish predation, and invertebrate distribution patterns in tropical streams. Studied amphipod-fish interactions in springs, and on plankton ecology in ponds and reservoirs in the United States. Currently analyzing biophysical indicators of water quality and ecosystem services in Northeastern U.S. lakes.
- ❖ **Population Genetics & Molecular Ecology:** Use of mitochondrial DNA sequences to study the relationship between population genetics, demography and landscape structure in a spatially and temporally variable South American small mammal assemblage. Microsatellite analysis of multiple paternity and maternal effects in garter snakes. Analyses of fruit fly dispersal and population genetics.

TEACHING EXPERIENCE

- ❖ **Adjunct Professor (University of Rhode Island):** Graduate Courses Landscape Ecology and Coastal Management.
- ❖ **Lecturer in Environmental Biology (Northern Illinois University):** Environmental Biology for non-majors.
- ❖ **Teaching Assistant (three Universities):** Six years experience conducting undergraduate laboratories in General Zoology, Biological Diversity, Invertebrate Biology and Ecology.

- ❖ **'Earthwatch' Eco-tourism Team Leader (Chile):** Led *Earthwatch* research teams within a Chilean National Park over several seasons; teaching science principles and methods to participants from diverse non-scientific backgrounds.

SKILLS

- ❖ **Project Management:** Versatile manager of complicated national and international research projects involving academic and government scientists, paid and volunteer support staff, land management agencies, universities, and non-governmental organizations. Experience with project management software (Microsoft Project and Open Workbench), budget tracking and projection, report writing, proposal preparation, employee hiring and supervision, and the coordination of research and logistics.
- ❖ **Field Biology:** Extensive experience capturing, identifying and marking aquatic and terrestrial invertebrates, fish, reptiles, small mammals and carnivores in a variety of field environments. Knowledge of plant ecology methods for measuring vegetative cover and habitat analysis. Knowledgeable in the use of radio telemetry to track animal movements. Advanced user of standard and differentially corrected GPS (global positioning systems) technology and related software.
- ❖ **Modeling:** Broad background in the development, parameterization, and application of diverse suite of ecological, population genetics, population estimation, and water quality models. Particular interest in statistical testing of model predictions with empirical data.
- ❖ **Computers:** Expert user of word processing, graphics, spreadsheet, database management, internet and communication software.
- ❖ **Data management and statistics:** Advanced understanding of univariate, and multivariate statistics with extensive experience with SAS (Statistical Analysis Software) and R. Highly competent user of ArcGIS, Arcview, and ArcPad GIS (Geographical Information System) software. Proficient in database design and management with SAS, Microsoft Access, MySQL, and Excel. Programming experience with Visual Basic, SAS IML, and PHP.
- ❖ **Molecular Techniques:** Laboratory experience and understanding of the extraction and purification of DNA, the polymerase chain reaction, cloning, manual and automated sequencing, primer design, and microsatellite DNA analysis. Experience in the use of software and statistics associated with the interpretation and analysis of molecular data for ecology and systematics.

- ❖ **Languages:** Native English speaker fluent in Spanish. Lived and worked in Venezuela (three years), Chile (six years), and Ecuador (two years). Comfortable with both personal and professional communication styles, and in the preparation of reports, presentations, and lectures in both languages.
- ❖ **Writing and Public Speaking:** Extensive experience producing written reports, grants, and scientific publications and in the presentation of research results before general and professional audiences.

POSITIONS HELD

- ❖ **Post-doctoral Research Ecologist (GS-0408-12/06):** April 2008 to present. U.S. Environmental Protection Agency, National Health and Environmental Effects Research Laboratory, Atlantic Ecology Division, Narragansett, R.I. 02882 USA. Supervisor Dr. Tim Gleason
 - Development of a new research program focused on Ecosystem Service indicators for Northeastern Lakes.
 - Member of the National Lake Assessment Analysis Team and contributor to the project report.
 - Preparation of the Ecosystem Services Research Program Reactive Nitrogen Implementation Plan.
 - Design and Management of a complex spatial and tabular dataset of lake water quality monitoring information; currently being converted to a dynamic website for data sharing and analysis.
 - Chair of the EPA Atlantic Ecology Division Awards Board.
- ❖ **Head of the Vertebrate Department:** April 2006 to March 2008. Charles Darwin Research Station, Puerto Ayora, Isla Santa Cruz, Galápagos, Ecuador. Supervisor Dr. Graham Watkins.
 - Development and stewardship of a complex research program in vertebrate ecology for the Galápagos archipelago.
 - Oversaw the development and implementation of GIS and information management programs.
 - Delivery of scientific support to the Galápagos National Park Staff to aid in the management of natural resources.
 - Recruitment and supervision of professional staff and student interns.
 - Preparation of proposals and reports.
- ❖ **Interim Director of Science:** April 2007 to March 2008. Charles Darwin Research Station, Puerto Ayora, Isla Santa Cruz, Galápagos, Ecuador. Supervisor Dr. Graham Watkins.
 - Management of four science departments and support staff.
 - Development and prioritization of annual work plans and research objectives.
 - Program review and management of a complex program change process.

- Development of an external network of cooperating Universities, Zoos, Museums and collaborating scientists.
- ❖ **Inventory and Monitoring Coordinator:** May 2002 to April 2006 (Permanent GS-0408-12/05). Northeast Coastal and Barrier Network, National Park Service. University of Rhode Island, Department of Natural Resources Science, Kingston RI 02881 USA. Supervisor Beth Johnson.
 - Development of complex monitoring program for natural resources in eight coastal parks.
 - Hiring and supervision of a professional staff.
 - Budget tracking and reporting.
 - Writing cooperative agreements and contracts.
 - Review and approval of reports and proposals.
- ❖ **Ecological Monitoring Program Coordinator:** (Permanent GS-0408-12/02). February 2001 to May 2002. Organ Pipe Cactus National Monument, National Park Service, Ajo AZ 85321 USA. Supervisor: Dr. Peter Rowlands (retired).
 - Coordination and development of a complex monitoring program for this bi-national world biosphere.
 - Supervision of field technicians, GIS technicians, and volunteers.
 - Data analysis and presentation.
 - Maintenance and support of Access databases.
 - Responsible for supporting GIS/GPS resources.
 - Establishment of cooperative monitoring projects with Mexican counterparts.
 - International travel liaison for the Monument.
- ❖ **Research Associate:** January 2001 to Present. Northern Illinois University, Department of Biological Sciences, DeKalb IL 60115 USA. Supervisor: Dr. Peter Meserve.
 - Research collaborator for a National Science Foundation supported research project on the community ecology of Chilean small mammals and plant communities.
 - Management and analysis of a growing database of monthly small mammal capture-mark-recapture records. Since 1989 more than 600,000 observations have been recorded.
 - Grant proposal preparation.
 - URL: <http://www.Frayjorge.org>
- ❖ **Postdoctoral Research Associate:** July 2000 to January 2001. Northern Illinois University, Department of Biological Sciences, DeKalb IL 60115 USA. Supervisor: Dr. Peter Meserve.
 - Postdoctoral research position for a National Science Foundation supported research project on the community ecology of Chilean small mammals and plant communities.
 - Grant proposal preparation.

- ❖ **Research and Teaching Assistant; Research Fellow:** March 1995 to June 2000. Northern Illinois University, Department of Biological Sciences, DeKalb IL 60115 USA. Supervisor: Dr. Peter Meserve.
 - Developed protocols for sequencing mitochondrial DNA for small mammal population genetics research.
 - Designed procedures for parentage analysis in snakes based on the amplification of microsatellite DNA markers.
 - Prepared and taught undergraduate course in Environmental Biology.
 - Prepared and taught undergraduate laboratory courses in general and invertebrate biology.
 - Received a doctoral dissertation completion fellowship to support the writing phase of my dissertation.

- ❖ **Research Coordinator:** March 1991 to February 1995. La Universidad de La Serena, Departamento de Biología, La Serena, Chile. Supervisor: Dr. Peter Meserve.
 - Responsible for the operation of a large experimental field study in Chile.
 - Supervision of a field research team.
 - Data management and analysis.
 - Liaison between investigators and government officials.

- ❖ **Assistant to the Director:** February 1990 to February 1991. Calder Ecology Center of Fordham University, Armonk NY 10504 USA. Supervisor: Dr. Stephen Threlkeld.
 - Responsible for facility administration.
 - Set up and maintained local area computer network.
 - Conducted research on freshwater zooplankton.

- ❖ **Winter Caretaker:** August 1988 to February 1990. The Rocky Mountain Biological Lab. Box 519, Crested Butte CO 81224 USA.

- ❖ **Investigator and Research Fellow:** October 1985 to December 1987. Universidad de Los Andes, Venezuela and the Organization of American States. Mérida Venezuela.
 - Conducted research on Andean stream ecology.

- ❖ **Research / Teaching Assistant:** August 1983 to September 1984. University of Maryland. Department of Zoology, College Park MD 20740 USA.
 - Performed all field phases of a study on fruit fly dispersal and population genetics.
 - Prepared and taught laboratory courses in ecology.

- ❖ **Research / Teaching Assistant:** January 1981 to May 1983. University of Oklahoma. Department of Biology, Norman OK 73019 USA.
 - Responsible for undergraduate laboratories in invertebrate zoology.
 - Supervised a research crew conducting fish and invertebrate surveys of the springs of Oklahoma.

PUBLICATIONS

- ❖ Milstead, W.B., J.W. Hollister, R.B. Moore, & H.W. Walker. *in prep* (2011). The estimation of nitrogen and phosphorus concentrations in Northeastern lakes from predicted nutrient loads and modeled lake depths.
- ❖ Gibbs, J.P., and B. Milstead. *In review* (2010). Monitoring the Galápagos ecosystem: challenges, pitfalls and a vision for the future. Proceedings of a Charles Darwin Foundation Symposium.
- ❖ Gutiérrez, J.R., P.L. Meserve, M.A. Previtali, W.B. Milstead, D.A. Kelt, A. Engilis, Jr., and F. Jaksic. 2010. Long-term research in Bosque Fray Jorge National Park: Twenty years studying the role of biotic and abiotic factors in a Chilean semiarid scrubland. *Revista Chilena de Historia Natural* 83(1)69-98.
- ❖ Hollister, J.W. and W.B. Milstead. 2010. Using GIS to Estimate Lake Volume from Limited Data. *Lake and Reservoir Management*. 26(3)194-199.
- ❖ Hollister, J.W., W.B. Milstead, and M.A. Urrutia. *In review* (2010). Predicting Maximum Lake Depth from Surrounding Topography. *PLoS ONE*.
- ❖ Meserve, P.L., J. R. Gutiérrez, D.A. Kelt, M.A. Previtali, A. Engilis, Jr. and W.B. Milstead. 2010. Global climate change and biotic-abiotic interactions in the northern Chilean semiarid zone: potential long-term consequences of increased el niños. Ch. 6, pp. 139-162 in: *Ocean Circulation and El Nino: New Research*. Editor: John A. Long and David S. Wells. pp. Nova Science Publishers, Inc. https://www.novapublishers.com/catalog/product_info.php?products_id=8028
- ❖ Meserve, P.L., D.A. Kelt, M.A. Previtali, W.B. Milstead, and J.R. Gutiérrez. *In review* (2010). Global climate change and small mammal populations in north-central Chile. *Journal of Mammalogy*.
- ❖ Moore, R. B., C. M. Johnston, R. A. Smith, and B. Milstead. *In review* (2010). Source and Delivery of Nutrients to Receiving Waters in the Northeastern and Mid-Atlantic Regions of the United States. *Journal of the American Water Resources Association*.
- ❖ Previtali, M.A., P.L. Meserve, D.A. Kelt, W.B. Milstead, and J.R. Gutiérrez. 2010. Changes in small mammal life-history, population dynamics, and assemblage composition in response to increasing frequency El Niño events in the northern Chilean semiarid zone as exemplified by the Chilean degu (*Octodon degus*). *Conservation Biology* 24:18-28.
- ❖ Anderson, D.J., K.P. Huyvaert, J.A. Awkerman, C.B. Proaño, W.B. Milstead, G. Jiménez-Uzcátegui, S. Cruz, and J.K. Grace. 2008. Population Status of the

- Critically Endangered Waved Albatross (*Phoebastria irrorata*), 1999-2007. *Endangered Species Research* 5:185-192. <http://tinyurl.com/yjq3h6w>
- ❖ Milstead, W.B., P.L. Meserve, A. Campanella, M. A. Previtali, D. A. Kelt, and J. R. Gutiérrez. 2007. Spatial ecology of small mammals in north-central Chile: role of precipitation and refuges. *Journal of Mammalogy* 88(6):1532-1538.
 - ❖ Wang, Y., M. Traber, B. Milstead, and S. Stevens. 2007. Terrestrial and submerged aquatic vegetation mapping in Fire Island National Seashore using high spatial resolution remote sensing data. *Marine Geodesy* 30: 77–95.
 - ❖ Holmgren, M., P. Stapp, C.R. Dickman, C. Gracia, S. Graham, J.R. Gutiérrez, C. Hice, F. Jaksic, D.A. Kelt, M. Letnic, M. Lima, B.C. López, P.L. Meserve, W.B. Milstead, G.A. Polis, M.A. Previtali, M. Richter, S. Sabaté, and F.A. Squeo. 2006. Extreme climatic events shape arid and semiarid ecosystems. *Frontiers in Ecology and the Environment* 4 (2):87-95. <http://tinyurl.com/ysyvxc>
 - ❖ Holmgren, M., P. Stapp, C. R. Dickman, C. Gracia, S. Graham, J. R. Gutiérrez, C. Hice, F. Jaksic, D. A. Kelt, M. Letnic, M. Lima, B. C. López, P. L. Meserve, W. B. Milstead, G. A. Polis, M. A. Previtali, M. Richter, S. Sabaté, and F. A. Squeo. 2006. A synthesis of ENSO effects on drylands in Australia, North America and South America. *Advances in Geosciences* 6: 1–4. <http://tinyurl.com/yubkfs>
 - ❖ Meserve, P.L., D. A. Kelt, W. B. Milstead, and J. R. Gutiérrez. 2004. Una investigación de largo plazo sobre interacciones de factores bióticos y abióticos del ecosistema semiárido del Parque Nacional Bosque Fray Jorge. pp. 135-160 in "Historia Natural del Parque Nacional Bosque Fray Jorge". F. A. Squeo, J. R. Gutiérrez, and I. R. Hernández (eds.). Ediciones Universidad de La Serena, La Serena, Chile.
 - ❖ Psuty, N.P., J. P. Pace, M. Duffy, and B. Milstead. 2004. Protocol Development for Shoreline Change Mapping and Analysis, Northeast Coastal and Barrier Network, National Park Service, USA. *Proceedings, Littoral 2004, Delivering Sustainable Coasts: Connecting Science and Policy*, Cambridge Publications, pp. 7-11.
 - ❖ Meserve, P.L., D.A. Kelt, W.B. Milstead, J.R. Gutiérrez. 2003. Thirteen Years of Shifting Top-Down and Bottom-Up Control. *Bioscience* 53:633-646. <http://tinyurl.com/27z2mm>
 - ❖ Milstead, B., S. Stevens, and B. Blumberg. 2003. Monitoring on the North Atlantic Coast: An example of successful collaboration. *Natural Resource Year in Review-2002*.
 - ❖ King, R. B., W. B. Milstead, H. L. Gibbs, M. R. Prosser, G. M. Burghardt, and G. F. McCracken. 2001. Application of microsatellite DNA markers to discriminate

- maternal and genetic effects on scalation and behavior in multiply-sired garter snake litters. *Canadian Journal of Zoology* 79:121-128.
- ❖ Meserve, P. L., W. B. Milstead, and J. R. Gutiérrez. 2001. Results of a food addition experiment in a north-central Chile small mammal assemblage: evidence for the role of "bottom-up" factors. *Oikos* 94:548-556.
 - ❖ Meserve, P.L., W.B. Milstead, J.R. Gutiérrez and F.M. Jaksik. 1999. The interplay of biotic and abiotic factors in a semiarid Chilean mammal assemblage: results of long-term experiment. *Oikos*: 85:364-372.
 - ❖ Meserve, P.L., J.A. Yunger, J.R. Gutiérrez, L.C. Contreras, W.B. Milstead, B.K. Lang, K.L. Cramer, S.H. Herrera, V.O. Lagos, S.I. Silva, E.L. Tabilo, M.A. Torrealba, and F.M. Jaksic. 1995. Heterogeneous responses of small mammals to an el Niño southern oscillation in northcentral semiarid Chile and the importance of ecological scale. *Journal of Mammalogy* 76:580-595.
 - ❖ Coyne, J., and W.B. Milstead. 1987. Long-distance migration of *Drosophila*. 3. Dispersal of *D. melanogaster* alleles from a Maryland orchard. *American Naturalist*. 130(1):70-82.
 - ❖ Milstead, W.B., and S. Threlkeld. 1986. An experimental analysis of darter predation on *Hyaella azteca* using semipermeable enclosures. *Journal of the North American Benthological Society* 5(4):311-318.
 - ❖ Matthews, W. J., J.J. Hoover, and W.B. Milstead. 1985. Fishes of Oklahoma Springs. *The Southwestern Naturalist*. 30(1):23-32.

REPORTS AND PLANNING DOCUMENTS

- ❖ U.S. Environmental Protection Agency. 2009. Office of Research and Development Ecosystem Services Research Program. Nitrogen Regulation Services Implementation Plan: Linking ecosystem services and nitrogen: Science to improve management of nitrogen in air, land and water.
- ❖ Stevens, S., B. Milstead, M. Albert, and G. Entsminger. 2005. Northeast Coastal and Barrier Network Vital Signs Monitoring Plan. National Park Service Northeast Region Technical Report NPS/NER/NRTR--2005/025. <http://tinyurl.com/38ne6j>
- ❖ Matthews, W.J., J. Hoover, and W.B. Milstead. 1983. The biota of Oklahoma Springs: Natural Biological Monitoring of Ground Water Quality. Technical Completion Report A-099-OKLA. The Oklahoma Water Resources Research Institute. Stillwater, OK.

THESIS AND DISSERTATION

- ❖ Milstead, W. B. 2000. The demographic and genetic structure of arid-land small mammal populations in north-central Chile: rainfall, refuges and ratadas. Ph.D. Dissertation, Northern Illinois University. Advisor, Dr. Peter Meserve.
- ❖ Milstead, W. B. 1983. An experimental analysis of the effects of darter predation on a population of *Hyaella azteca*. M.S. Thesis, University of Oklahoma. Advisor, Dr. Stephen Threlkeld.

PRESENTATIONS

- ❖ Keith, D., B. Milstead, H. Walker, D. Worthy, J. Szykman, M. Wusk, L. Kagey, C. Howell, H. Snook, & C. Druke. 2010. Using hyperspectral aircraft remote sensing to support ecosystem services research in New England lakes and ponds. American Geophysical Union Meeting. December 13-17, 2010. San Francisco, CA USA.
- ❖ Milstead, W.B., J.W. Hollister, H.A. Walker, & R.B. Moore. 2010. Northeastern lakes: tradeoffs between aesthetics and the attenuation of anthropogenic reactive nitrogen. ACES (A Community of Ecosystem Services) Conference. December 6-9, 2010. Chandler, AZ USA.
- ❖ Milstead, B., J. Hollister, and H. Walker. 2010 Predicting the Perceived Condition of Northeastern Lakes. USEPA Ecosystem Services Research Program 3rd Annual Conference. October 19-21, 2010. Las Vegas, NV USA.
- ❖ Milstead, B., H. Walker, J. Hollister, & N. Kamman. 2010. Modeling the "Appeal" of Northeast Lakes. Workshop Session: "The National Lakes Assessment – Just How Good are the Nation's Lakes and Reservoirs". National Water Quality Monitoring Council Conference. April 28, 2010, Denver, CO USA. http://acwi.gov/monitoring/conference/2010/ES14_NLA_Kamman/Milstead.pdf
- ❖ Moore, R., M. Enache, . Smith, B. Milstead, & Henry Walker. Applying SPARROW to Determine the Source and Delivery of Phosphorus to Lakes in the Northeastern and Mid-Atlantic Regions United States. National Water Quality Monitoring Council Conference. April 27, 2010, Denver, CO USA.
- ❖ Hollister, J, & B. Milstead. 2010. Linking landscape to ecosystem services: Landscape structure as an indicator and predictor of water clarity in New England lakes. International Association for Landscape Ecology Symposium. April 6, 2010, Athens GA USA.
- ❖ Milstead, B., J. Hollister, H. Walker, J. Kiddon, J. Copeland, H. Buffum, M. Charpentier, M. Hughes, D. Bender, C. Cormier, D. Keith. 2010. A Northeastern US Lakes Database to Support Ecosystem Services Research. New England Association of Environmental Biologists Conference. March 18, Newport RI USA. <http://www.epa.gov/region1/neaeb2010/pdfs/PosterHollisterJeff.pdf>

- ❖ Milstead, B., H. Walker, & N. Kamman. 2009. What Can the National Lake Assessment Tell Us About Ecosystem Services in Lakes? North American Lake Management Society. October 28, 2009, Hartford, CT USA.
- ❖ Hollister J. W. and W. B. Milstead. Using GIS to Estimate Lake Volume from Limited Data. Annual Meeting of the North American Lake Management Society, Hartford, CT. October 28, 2009, Hartford, CT USA.
- ❖ Hollister J. W. and W. B. Milstead. A Simple GIS Approach for Estimating Lake Volume from Limited Data. Northeast Arc Users Group Annual Meeting, October 2009, Nashua, NH USA.
- ❖ Milstead, B. 2009. The Benefits of Protecting and Restoring Northeastern Lakes: an Ecosystem Services Perspective. Invited Plenary Session Presentation. Northeastern Association of Environmental Biologists. March 19, 2009. Westbrook, CT USA.
- ❖ Milstead, B. 2008. Galápagos: The Challenge of Managing a Popular World Heritage Site. Invited Seminar. University of Massachusetts Boston, Department of Environmental, Earth & Ocean Sciences. September 17, 2008. Boston, MA USA.
- ❖ Milstead, B. 2008. Integrating Ecosystem Services into Environmental Monitoring Programs. Invited Seminar. U.S. Environmental Protection Agency. April 9, 2008, Narragansett, RI USA.
- ❖ Milstead, B. 2007. Galápagos, Ecuador: The Challenge of Managing A World Heritage Site. Association of Zoos and Aquaria Conference, September 17-20, 2007, Philadelphia, PA USA.
- ❖ Andrea Previtali, M.A., P.L. Meserve, W. B. Milstead, D. A. Kelt, & J. R. Gutierrez. 2007. Changes in small mammal life-history, population dynamics, and assemblage composition in response to increasing frequency El Niño events in the northern Chilean semiarid zone as exemplified by the Chilean degu (*Octodon degus*). The Wildlife Society Meeting. September 22-24, 2007, Tucson AZ USA
- ❖ Roman C., M.J. James-Pirri, D. Cahoon, and B. Milstead. 2006. Long-term Monitoring of Salt Marsh Structure and Function: Assessing Responses to Natural and Human-caused Stressors. Ocean Sciences Meeting, February 20-24, 2006, Honolulu, HI USA.
- ❖ Kopp, B., H.A. Neckles, L. Cole, B. Milstead, S. Granger. 2005. Monitoring estuarine condition within North Atlantic U.S. National Parks. Estuarine Research Federation Biennial Conference. October 16-21, 2005, Norfolk VA USA.

- ❖ M. Previtali, M. Lima, B. Milstead, & P. Meserve. 2005. Effects of rainfall, resource availability and predation on the dynamics of rodents in semiarid Chile. American Society of Mammalogists Conference. June 15-19, 2005, Springfield, MO USA.
- ❖ Milstead B., S. Stevens, & M. Albert. Monitoring Park Use in Northeast Coastal National Parks. The George Wright Society Conference. March 14-18 2005, Philadelphia, PA USA.
- ❖ Milstead B., & S. Stevens. 2005. The National Park Service Inventory and Monitoring Program. Fire Island National Seashore 5th Biennial Science Conference, April 5-6, 2005, Patchogue, NY USA.
- ❖ Stevens, S., & B. Milstead. 2005. Inventory of vertebrates and vascular plants in northeast coastal National Parks (USA). Fire Island National Seashore 5th Biennial Science Conference, April 5-6, 2005, Patchogue, NY USA.
- ❖ Wang, Y., M. Traber, & B. Milstead. 2005. Remote sensing of terrestrial and submerged aquatic vegetation in Fire Island National Seashore: towards long-term resource management and monitoring. Fire Island National Seashore 5th Biennial Science Conference, April 5-6, 2005, Patchogue, NY USA.
- ❖ Milstead B. and S. Stevens. Case Study: Selection of "Vital Signs" to Monitor Ecosystem Integrity for Northeast Coastal National Parks. Monitoring Science & Technology Symposium. September 2004, Denver, CO USA.
- ❖ Duffy, M.C., B. Milstead and R. Beavers. 2003. "Building on the Jim Allen Legacy: Turning Research into Monitoring in Northeast Coastal Parks" Coastal Sediments Conference, January 2003, Clearwater Beach, FL USA.
- ❖ Milstead B. 2003. Monitoring Natural Resources in Northeast Coastal Parks. Fire Island National Seashore 4th Biennial Science Conference, March 24, 2003, Patchogue, NY USA.
- ❖ Milstead, W.B., L. Fabre, and S. Stevens. 2003. Avian Monitoring in Northeastern Coastal National Parks: Opportunities for Developing Effective Collaboration with Existing Programs. George Wright Society, May 2003, San Diego, CA USA.
- ❖ Pate, A., B. Barns, B. Milstead, C. Conner & P. Rowlands. 2003. Life on the Border. George Wright Society, May 2003, San Diego, CA USA.
- ❖ Rodriguez, Arthur, M. Duffy, B. Milstead, C. LaBash, and P. August. July 2003. "Monitoring Coastal Geomorphology in Northeastern National Parks Using LIDAR and GIS". Poster at the 2003 ESRI International User's Conference.

- ❖ Milstead, W.B. 2002. Avian Monitoring in Northeastern Coastal National Parks: the Need for Stronger Links Between Science and Management. Park Flight Workshop: "*Creating a Network for Protected Area Avian Monitoring*", November 4-10, 2002. Pico Bonito, Honduras.
- ❖ Milstead, W.B. 2002. The National Park Service Inventory and Monitoring Program. Park Flight Workshop: "*Creating a Network for Protected Area Avian Monitoring*", November 4-10, 2002. Pico Bonito, Honduras.
- ❖ Milstead, W.B. 2002. The Northeast Coastal and Barrier Network Inventory and Monitoring Program. National Park Service Vital Signs Monitoring Meeting, August 13-16, 2002. Denver CO USA.
- ❖ Milstead, W.B., and Barns, B.J. 2002. Life on the Border: Monitoring the Effects of Border-Crossing and Law Enforcement on Natural Resources. Fourth Conference on Research and Resource Management in the Southwestern Deserts, May 15-17, 2002. Tucson, AZ USA.
- ❖ Milstead, W.B., P.L. Meserve, and J.R. Gutiérrez. 2001. Ratadas in north-central Chile: the importance of biotic interaction, dispersal and El Niño. Eighth International Theriological Congress, September 13-17, 2001. Sun City, South Africa.
- ❖ Meserve, P.L., W. B. Milstead, and J.R. Gutiérrez. 2001. Long-term experimental studies of mammals in heterogeneous environments: lessons from semiarid Chile. Eighth International Theriological Congress, September 13-17, 2001. Sun City, South Africa.
- ❖ Milstead, W.B., P.L. Meserve, and J.R. Gutiérrez. 2000. Metapopulation theory in the real world: empirical tests from a long-term study of a small mammal assemblage in north-central Chile. American Society of Mammalogists Meeting, June 17-21, 2000, Durham, NC USA.
- ❖ Campanella, A., W.B. Milstead, and P.L. Meserve. 2000. Feeding ecology of the Culpeo Fox (*Pseudolopex culpaeus*) during an el niño disturbance in north central Chile: Evidence for functional and numerical response. American Society of Mammalogists Meeting, June 17-21, 2000, Durham, NC USA.
- ❖ King, R.B., W.B. Milstead, H.L. Gibbs, M.R. Prosser, G.M. Burghardt, and G.F. McCracken 1999. Microsatellite markers reveal multiple paternity and allow discrimination of maternal and genetic effects on garter snake morphology and behavior. Society for the Study of Evolution Meeting, June 22-26, 1999, Madison, WI USA.
- ❖ Meserve, P.L., W. B. Milstead, and J.R. Gutiérrez. 1999. Verifying the role of "bottom-up" factors in a Chilean semiarid small mammal assemblage: Initial

- results from a food addition study. American Society of Mammalogists Meeting, June 20-24, 1999, Seattle, WA USA.
- ❖ Milstead, W.B. and P.L. Meserve. 1999. Demographic and genetic structure of rodent populations in a variable environment: an example from north-central Chile. Society for the Study of Evolution Meetings, June 22-26, 1999, Madison, WI USA.
 - ❖ Milstead, W. B., and P.L. Meserve. 1998. The effects of spatial and temporal scale on extinction and colonization rate estimates for a Chilean rodent assemblage. American Society of Mammalogists Meeting, June 6-10, 1998, Blacksburg, VA USA.
 - ❖ Meserve, P.L., W. B Milstead, J.A. Yunger, J.R. Gutiérrez and F.M. Jaksic. 1997. The interplay of biotic and abiotic factors in a semiarid Chilean small mammal assemblage: Results of long-term ecological experiment. Seventh International Theriological Congress, September 6-11, 1997, Acapulco, Mexico.
 - ❖ Milstead, W. B., P. L. Meserve and A. Campanella. 1997. Drought, spatial refuges and ratadas in north-central Chile. Seventh International Theriological Congress, September 6-11, 1997, Acapulco, Mexico

FELLOWSHIPS AND AWARDS

- ❖ U.S. Environmental Protection Agency Office of Research and Development **National Award for Exceptional/Outstanding ORD Technical Assistance to the Regions or Program Offices**: 2010.
- ❖ U.S. Environmental Protection Agency Star Award for Sustained Performance: 2010.
- ❖ U.S. Environmental Protection Agency Star Award for Sustained Performance: 2009.
- ❖ U.S. Environmental Protection Agency Star Award for Significant Contribution to the National Ecosystem Services Research Program: 2008
- ❖ U.S. Environmental Protection Agency Star Award for Sustained Performance: 2008.
- ❖ National Park Service Star Award for Sustained Performance: 2004.
- ❖ National Park Service Star Award for Sustained Performance: 2003.
- ❖ Northern Illinois University Department of Biological Sciences Terwilliger Award for Outstanding Graduate Student of the Year: 1999.

- ❖ Northern Illinois University Graduate College Doctoral Completion Fellowship: 1998.
- ❖ American Society of Mammalogists: Grant-in-aid of Research Award: 1998.
- ❖ Sigma Xi Research Awards: 1986 and 1996.
- ❖ Organization of American States Fellowship to Study in Venezuela: 1985.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- ❖ American Society of Mammalogists
- ❖ Society For Conservation Biology
- ❖ The George Wright Society

TRAINING PROGRAMS

- ❖ Bat Conservation and Management Workshop. June 6-11, 2001. Portal AZ. Sponsored by: Bat Conservation International.
- ❖ Migrating from ArcView 3.x to ArcView 8, (ESRI Certified). Oct. 25-27, 2001. Tucson AZ. Taught by: Brad Tatham, GIS Services.
- ❖ Natural Resource Data Management Workshop. Nov. 13-16, 2001. Yellowstone National Park WY. Sponsored by: The National Park Service.

REFERENCES

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