

PRESENT POSITION

Biometrician/Project Manager

Western EcoSystems Technology, Inc., 2003 Central Ave, Cheyenne, WY 82001.

Telephone: (307) 634-1756. Fax: (307) 637-6981, email: werickson@west-inc.com

PREVIOUS POSITIONS

1998-2000 Research Assistant, University of Wyoming.

1990-1991 Research Assistant, University of Wyoming.

1990-1991 Field Scientist, University of Alaska, Fairbanks.

1989 Research Assistant, Alumni Office, Winona State University.

EDUCATION

M.S. 1992 University of Wyoming Statistics

B.S. 1989 Winona State University Statistics/Mathematics

RELEVANT EXPERTISE AND TRAINING

Generalized Linear Models	Logistic Regression
Sampling Theory	Multivariate Statistics
Experimental Design	Randomization/Permutation Tests
Spatial Statistics	Monte Carlo Methods (e.g., Bootstrap)
Non-Parametric Statistics	Geographic Information Systems
Resource/Habitat Selection	Good Laboratory Practices (GLP)
Wind Project Permitting	

SPECIALTY AREAS

Mr. Wallace P. Erickson has been a statistician/project manager with WEST since 1991. He has a M.S. in Statistics from the University of Wyoming. He has over 14 years of consulting experience related to the design and analysis of environmental and wildlife studies. His primary research interests include habitat selection methodology with applications to GIS, and study designs and analysis for detecting impacts from environmental perturbations. He has been lead statistician and WEST project manager for baseline studies, environmental permitting, and/or operational monitoring/research at wind energy projects in over 11 states (California, Minnesota, Montana, Oregon, Washington, West Virginia, Colorado, Wisconsin, Texas, Maine, Wyoming). He is an author/co-author on over 35 professional journal articles, book chapters or peer reviewed proceedings papers, and is co-author of the 2nd edition of the book "Resource Selection by Animals". He has presented over 25 papers/posters at national/regional meetings. He has worked on numerous projects funded by the USFS, USFWS, USGS BRD as well as projects funded by industry. He was one of the principal investigators for the bat research conducted in the fall 2004 in the eastern United States as part of the Bat Wind Energy Cooperative, a collaborative research effort among the wind industry, USFWS, Bat Conservation International, and others. He has 4 daughters.

His duties with WEST Inc. involve using current state-of-the-art statistical principles in designing ecological studies and analyzing subsequent data. He has taught workshops on the following topics: 1) Statistics for Spatially Correlated GIS Data, 2) Resource Selection, 3) Computer Intensive Statistics, and 4) Basic Statistics for Biologists and Field Ecologists. The topic of his dissertation is on methods for estimating wildlife fatality rates in field study situations.

SCIENTIFIC ORGANIZATION MEMBERSHIPS

Biometrics Society The Wildlife Society The National Audubon Society

PROFESSIONAL PUBLICATIONS/PROCEEDINGS

- Kerns, J., E. W. Erickson and E. Arnett. 2005. Bat and bird fatality at Wind Energy Facilities in Pennsylvania and West Virginia. Title Of Chapter. Pages 24-95. In E. B. Arnett, Technical Editor, Relationships Between Bats And Wind Turbines In Pennsylvania And West Virginia: An Assessment Of Bat Fatality Search Protocols, Patterns Of Fatality, And Behavioral Interactions With Wind Turbines. A Final Report Submitted To The Bats And Wind Energy Cooperative. Bat Conservation International. Austin, Texas, USA.
- Anderson, R. N. Neuman, J. Tom, W.P. Erickson, M.D. Strickland, M. Bourassa, K.J. Bay, and K.J. Sernka. 2004. Avian monitoring and risk assessment at the Tehachapi Pass Wind Resource Area. NREL. Period of Performance: October 2, 1996 – May 27, 1998. NREL/SR-500-36416.
- Erickson, W.P., G.D. Johnson, and D.P. Young. 2006. Summary of anthropogenic causes of bird mortality. Proceedings of the 2002 International Partner's in Flight Conference, Monterrey, California.
- McDonald, L.L., J.R. Alldredge, M. Boyce and W.P. Erickson. 2004. Measuring availability and vertebrate use of terrestrial habitats and foods. In Wildlife Techniques Manual. The Wildlife Society. Anderson, R. N. Neuman, J. Tom, W.P. Erickson, M.D. Strickland, M. Bourassa, K.J. Bay, and K.J. Sernka. 2004. Avian monitoring and risk assessment at the Tehachapi Pass Wind Resource Area. Period of Performance: October 2, 1996 – May 27, 1998. NREL/SR-500-36416.
- Johnson, G. D., M. D. Strickland, W. P. Erickson, and D. P. Young, Jr. 2006. Use of data to develop mitigation measures for wind power development impacts to birds. In M. Ferrer, G. Janss and M. de Lucas, editors. Birds and windpower. Quercus Press, Spain. In Press.
- Johnson, G.D., M.K. Perlik, W.P. Erickson, and M.D. Strickland. 2004. Bat activity, composition and collision mortality at a large wind plant in Minnesota. *Wildlife Society Bulletin* 32: in Press.
- Erickson, W.P., R. Nielson, R. Skinner, B. Skinner and J. Johnson. 2004. Applications of resource selection modeling using unclassified Landsat Thematic Mapper imagery In Resource Selection Technique and Applications. Huzurbazar, editor. Omnipress, Madison Wisconsin.
- Howlin, S., W.P. Erickson, and R. Nielson. 2004. Techniques for assessing predictive ability of resource selection functions. In Resource Selection Technique and Applications. Huzurbazar, editor. Omnipress, Madison Wisconsin.
- Manly, B.F.J., L.L. McDonald, D. Thomas, T. McDonald and W.P. Erickson. 2002. Resource Selection by Animals, Statistical Design and Analysis of Field Studies. Kluwer Academic Publishers.
- Erickson, W.P. 2002. Bird mortality from anthropogenic causes. 2003. In Proceedings of the Wind Power 2002 Conference, Portland Oregon.
- Erickson, W.P., G.D. Johnson, and D.P. Young. 2004. Summary of anthropogenic causes of bird mortality. Proceedings of the 2002 International Partner's in Flight Conference, Monterrey, California. In Press.
- Johnson, G.D., M.K. Perlik, W.P. Erickson, M.D. Strickland, D.A. Shepherd, and P. Sutherland, Jr. 2003. Bat interactions with wind turbines at the Buffalo Ridge, Minnesota Wind Resource Area: An assessment of bat activity, species composition, and collision mortality. Electric Power Research Institute, Palo Alto, California, and Xcel Energy, Minneapolis, Minnesota. EPRI report # 1009178.
- Young, D., W. Erickson, M. Dale Strickland, Rhett Good, and S. Howlin. 2002. Comparison of avian effects from UV light reflective paint applied to wind turbines, Foote Creek Rim Wind Plant, Carbon County, Wyoming. National Renewable Energy Laboratory. Golden, Colorado 80401-3393
- Johnson, G.D., W.P. Erickson, M.D. Strickland, M.F. Shepherd, D.A. Shepherd, and S.A. Sarappo. 2002. Collision mortality of local and migrant birds at a large-scale wind power development on Buffalo Ridge, Minnesota. *Wildlife Society Bulletin* 30:879-887.
- Johnson, G.D., W.P. Erickson, M.D. Strickland, M.F. Shepherd, D.A. Shepherd, and S.A. Sarappo. 2003. Mortality of bats at a large-scale wind power development at Buffalo Ridge, Minnesota. *The American Midland Naturalist* 150:332-342.
- Anderson, R., W.P. Erickson, M.D. Strickland, M Bourassa, J. Tom, and N. Neumann. 2001. Avian monitoring and risk assessment at Tehachapi Pass and San Gorgonio Pass Wind Resource Areas, California. Proceedings of the National Avian-Wind Power Planning Meeting IV. National Wind Coordinating Committee, c/o RESOLVE, Inc. Washington, D.C.
- Strickland, M.D., W.P. Erickson, G. Johnson, D. Young, and R. Good. 2001. Risk reduction avian studies at the Foote Creek Rim Wind Plant in Wyoming. Proceedings of the National Avian-Wind Power Planning Meeting IV. National Wind Coordinating Committee, c/o RESOLVE, Inc. Washington, D.C.
- Strickland, M.D., G. Johnson, W.P. Erickson and K. Kronner. 2001. Avian studies at wind plants located at Buffalo Ridge Minnesota and Vansycle Ridge Oregon. Proceedings of the National Avian-Wind Power Planning Meeting IV. National Wind Coordinating Committee, c/o RESOLVE, Inc. Washington, D.C.

PROFESSIONAL PUBLICATIONS/PROCEEDINGS (continued)

- Erickson, W.P., T.L. McDonald, K. Gerow, J. Kern and S. Howlin. 2001. Statistical issues in resource selection studies with radio-marked animals. Pages 209-242 in J. J. Millsbaugh and J. M. Marzluff, editors. *Radio Tracking and Animal Populations*. Academic Press, San Diego, California, USA.
- Erickson, W.P., G. D. Johnson, M. D. Strickland, D. P. Young, Jr., K.J. Sernka and R.E. Good. 2001. Avian collisions with wind turbines: A summary of existing studies and comparisons to other sources of avian collision mortality in the United States. National Wind Coordinating Committee Publication. <http://www.nationalwind.org/pubs/default.htm>
- Peterson, C. H., L. L. McDonald, R. H. Green, and W. P. Erickson. 2001. Sampling design begets conclusions: the statistical basis for detection of injury to and recovery of shoreline communities after the Exxon Valdez oil spill. *Mar Ecol Prog Ser* 210:255-283.
- Hupp, J. W., A.B. Zacheis, R.M. Anthony, D.G. Robertson, W.P. Erickson and Kelly C. Palacios. 2001. Snow cover and snow goose *Anser caerulescens caerulescens* distribution during spring migration. *Wildlife Biology*, 7(2): 65-76.
- Arnett, E.B., R.J. Anderson, C. Sokal, F. Isaacs, R.G. Anthony and W.P. Erickson. 2001. Relationships between nesting bald eagles and selective logging in south-central Oregon. *Wildlife Society Bulletin* 29:795-803.
- Johnson, G.D., W.P. Erickson, M.D. Strickland, M.F. Shepherd, D.A. Shepherd, and S.A. Sarappo. 2003. Mortality of bats at a large-scale wind power development at Buffalo Ridge, Minnesota. *The American Midland Naturalist* 150:332-342.
- Irons, D.B., S.J. Kendall, W.P. Erickson, L.L. McDonald, and B.K. Lance. 2000. Nine years after the *Exxon Valdez* oil spill: effects on marine bird populations in Prince William Sound, Alaska. *The Condor*. 102: 723-737.
- Erickson, W.P., M.D. Strickland, G.D. Johnson, and J.W. Kern. 2000. Examples of statistical methods to assess risk of impacts to birds from windplants. Proceedings of the National Avian-Wind Power Planning Meeting III. National Wind Coordinating Committee, c/o RESOLVE, Inc., Washington.
- McDonald, T. L., W. P. Erickson, and L.L. McDonald. 2000. BACI analysis for count data. *JABES*. 5:262-279.
- Strickland, M.D., D.P. Young, Jr., G.D. Johnson, W.P. Erickson, and C.E. Derby. 2000. Wildlife monitoring studies for the SeaWest Wind power Plant, Carbon County, Wyoming. Proceedings of the National Avian Wind Power Planning Meeting III. National Wind Coordinating Committee, c/o RESOLVE, Inc., Washington, D.C.
- Strickland, M.D., G.D. Johnson, W.P. Erickson, S. Sarappo, and R. Halet. 2000. Avian use, flight behavior and mortality on the Buffalo Ridge, Minnesota Wind Resource Area. Proceedings of the National Avian Wind Power Planning Meeting III. National Wind Coordinating Committee, c/o RESOLVE, Inc., Washington, D.C.
- Ward, D.H., R. A. Stehn, W. P. Erickson, and D. V. Derksen. 1999. Response of fall-staging brant and Canada geese to aircraft overflights in Alaska. *J. Wildl. Manag.* 63:382-391.
- Erickson W.P., G. D. Johnson, M. D. Strickland, and K. Kronner. 1999. Avian baseline study at the proposed CARES Windplant, Goldendale WA. NREL/SR-500-259.
- Erickson, W.P., T. Nick and D.H. Ward. 1998. Investigating flight response of brant on the Izembek NWR, Alaska, using logistic regression techniques. in "Statistical Case Studies: A Collaboration Between Academe and Industry". eds, R. Peck, L.D. Haugh, and A. Goodman ASA/SIAM, Philadelphia, PA pp. 155-171.
- Erickson, W.P. T. McDonald, and R. Skinner. 1998. Habitat selection using GIS data: A case study. *JABES*. 3: 296-310.
- Strickland M.D., Johnson, G.D., W. Erickson, S. Sarappo and R. Halet. 1997. Assessing impacts to birds from the Buffalo Ridge, Minnesota windplant development. Proceedings from the American Wind Energy Association Conference, June 15-18, in Austin TX. Pp. 281-290.
- Johnson, G., D. Young, W. Erickson, and D. Strickland. 1996. Assessing river habitat selection by waterfowl wintering in the South Platte River, Colorado. *Wetlands*. 16: 542-547.
- Highsmith, R.C., T.L. Rucker, M.S. Stekoll, S.M. Saupe, M.R. Lindeberg, R. Jenne and W.P. Erickson. 1996. Impact of the *Exxon Valdez* oil spill on intertidal biota. In Rice, S. D., R. B. Spies, D. A. Wolfe, and B. A. Wright (eds). *Exxon Valdez Oil Spill Symposium Proceedings*. American Fisheries Society Symposium Number 18.
- Stekoll, M.S., L. Deysher, R.C. Highsmith, S.M. Saupe, Guo, W.P. Erickson, L.L. McDonald and M.D. Strickland. 1996. Coastal habitat injury assessment: intertidal communities and the *Exxon Valdez* oil spill. In Rice, S. D., R. B. Spies, D. A. Wolfe, and B. A. Wright (eds). *Exxon Valdez Oil Spill Symposium Proceedings*. American Fisheries Society Symposium Number 18: 177-192.
- Erickson, W. P., and L.L. McDonald. 1995. Tests for bioequivalence of control media and test media in studies of toxicity. *Journal of the Society of Environmental Toxicology and Chemistry*. 14:1247-1256.

PROFESSIONAL PUBLICATIONS/PROCEEDINGS (continued)

- Barber, W.E., L.L. McDonald, W.P. Erickson, and M. Vallarino. 1995. Effect of the *Exxon Valdez Oil Spill* on

- intertidal fish: a field study. *Trans. Amer. Fish. Soc.* 124: 461-476.
- Marr, J.C.A., H.L. Bergman, M. Parker, J. Lipton, D. Cacela, W. Erickson, and G.R. Phillips. 1995. Relative sensitivity of brown and rainbow trout to pulsed exposures of an acutely lethal mixture of metals typical of the Clark Fork River, Montana. *Can. J. Fish. Aquat. Sci.* 52: 2005-2015.
- McDonald, L. L. M.D. Strickland and W. P. Erickson. 1995. Coastal Habitat Injury Assessment: Design, Analysis and Statistical Inference. In *Exxon Valdez Oil Spill: Fate and Effects in Alaskan Waters*. P. G. Wells, J. N. Butler, and J.S. Hughes, eds. ASTM STP 1219, Atlanta, GA.
- McDonald, L.L. and W.P. Erickson. 1994. Testing for bioequivalence in field studies: Has a disturbed site been adequately reclaimed. *Proceedings of the Statistics in Ecology and Environmental Monitoring Conference*. pp. 183-197.
- McDonald, L. L., D. J. Reed, and W. P. Erickson. 1991. Analysis procedures for habitat and food selection studies. In *Proceedings 4th North American Caribou Workshop*. [eds. C. E. Butler and S. P. Mahoney] Newfoundland and Labrador Wildlife Division, St. John's, Newfoundland. pp. 429-474.

PAPERS PRESENTED AT REGIONAL AND NATIONAL MEETINGS

- Erickson, W.P. Statistical methods in impact assessment at wind projects. Invited paper at the 2006 "Towards Wildlife Friendly Wind Projects", Toledo, OH. Organized by the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, Great Lakes Basin Ecosystem Team, Great Lakes National Program Office, Illinois Natural History Survey, U.S. Geological Survey. June 27-29th, 2006.
- Erickson, W.P. Approaches to Assess Impacts at Risk at Wind Power Projects. Invited paper at the 2006 Colorado Wind Power and Wildlife Symposium, Colorado Division of Wildlife. January 2006. Fort Collins Colorado.
- Erickson, W.P. Approaches to Assess Impacts at Risk at Wind Power Projects. Invited paper at the 2006 AWEA/Audubon Wind Power and Wildlife Symposium. January 2006. Pasadena California.
- Erickson, W.P., Direct Impacts to Birds from Wind Energy Facilities. Invited paper at the 2006 Colorado Wind Power and Wildlife Symposium, Colorado Division of Wildlife.
- Erickson, W.P. Wildlife Impact and Risk Assessment Methods for Wind Energy Projects. Presentation at the 2005 American Wind Energy Association. Denver, CO.
- Erickson, W.P. Prevention and Mitigation of Avian Impacts at Wind Energy Projects. Invited presentation at the 2005 Grassland Birds Conference, Fort Collins, CO.
- Erickson, W.P. Bat Fatalities at Two Eastern Wind Power Projects. Invited Presentation at the 2005 Western Bat Working Group Meeting. Portland OR.
- Erickson, W.P. Update on Bird and Bat Impacts at Wind Energy Projects. Presentation at the 2004 TWS Conference, Calgary.
- Erickson, W.P. Bat Fatality Monitoring Methods, Fall 2004. Mountaineer and Meyersdale. Invited presentation at the 2004 NWCC Research Meeting, November, Washington D.C.
- Erickson, W.P. Preliminary Fatality Results, Meyersdale Wind Energy Facility Fall 2004. Invited presentation at the 2004 NWCC Research Meeting, November, Washington D.C.
- Erickson, W.P. 2004. Direct and Indirect Impacts of Wind Projects on Wildlife. Invited presentation at the Michigan Audubon Societies Annual Meeting. East Lansing Michigan, March 5th and 6th, 2004.
- Erickson, W.P. 2004. Update of Bird and Bat Mortality and Collision Risk at Wind Projects, the Latest Data and Science. AWEA 2004 Conference, Chicago, Illinois.
- Erickson, W.P. 2004. Perspectives Regarding Avian Mortality, What Are the Messages? Invited Presentation to Environment Canada's National Wind Power and Environmental Assessment (EA) Workshop on May 11-12, 2004. Montoc, New Brunswick.
- Erickson, W.P. Update on Bird and Bat Mortality and Risk at wind projects. Paper at the 2003 Biological Significance Workshop, NWCC Wildlife Working Group, Washington, Washington, D.C. November 2003.
- Erickson, W.P. Bird mortality at wind projects. Invited paper at the 2002 American Bird Conservancy Policy Council Meeting, Washington, D.C. December 2002.
- Erickson, W.P. Bird Mortality at Wind Projects and from Other Anthropogenic Sources. Invited paper at the 2002 Minnesota Ornithological Union Conference, Minneapolis, MN. December 2002.
- Erickson, W.P. Avian collisions with wind turbines: a summary of existing data and a comparison to other sources of bird mortality. Contributed paper at the Windpower 2002 Conference, Portland, OR, June 2002.

PAPERS PRESENTED AT REGIONAL AND NATIONAL MEETINGS (continued)

- Erickson, W.P. Summary of anthropogenic causes of avian mortality. Invited paper at the 2002 International Partner's In Flight Meeting, March, 2002. Monterrey, California.
- Erickson, W.P. Avian collisions with wind turbines. Invited paper at the International Conference on Utility Structures, March, 2002. Fort Collins, Colorado.
- Erickson, W.P. Avian mortality from anthropogenic causes. Invited paper at the Washington State Audubon Meeting, September 2001, Walla Walla, WA.
- Erickson, W.P. Statistical methods for estimating wildlife fatality rates. 2001 TWS Meeting, Reno, NV.
- Erickson, W.P. Modeling moose habitat. January 2000. Workshop organizer and presenter for state and federal agency personnel in Alaska.
- Erickson, W.P. 1999. Statistical issues in resource selection studies. Invited paper presented at the symposium "Modeling Species Occurrences", Snowbird, UT.
- Erickson, W.P. 1999. Statistical issues in resource selection studies with radio-marked animals. Invited paper in the radio-telemetry session at the Wildlife Society Meeting, Dallas TX.
- Erickson, W.P., October 1999. Use Of GIS in monitoring impacts of windplants on wildlife. Invited paper presented at the EPPL7 User's Conference, St. Paul, MN.
- Erickson, W.P., and M.D. Strickland. 1997. Assessing Impacts to Birds from the Buffalo Ridge, Minnesota Windplant Development. Invited paper presented at the AWEA Meeting, Austin, TX.
- Erickson, W.P., M.D. Strickland, G. Johnson, and J. Kern. 1998. Examples of Risk Assessment Methods for Studying Impacts of Birds from Windplants. Invited paper presented at the NWCC Meeting, San Diego, CA.
- Erickson, W.P. and M.D. Strickland. 1997. Assessing impacts to birds from the Buffalo Ridge, Minnesota Windplant Development. Invited paper presented at the AWEA Meeting, Austin, TX.
- Erickson, W.P. 1997. Resource selection techniques with GIS data. Invited talk presented at the BLM/DU Satellite Imagery Conference, Anchorage, AK.
- Erickson, W.P. 1997. Design and analysis issues when assessing environmental impacts to wildlife populations. Invited talk at Winona State University, Winona MN.
- Erickson, W.P. 1997. Statistical considerations in observational field studies: What can you infer? Invited paper at the Northwest Chapter of the Wildlife Society Meeting, Sun River, Oregon.
- Erickson, W.P. and T. McDonald. 1996. Resource selection techniques using GIS. Poster presented at the National Wildlife Society Meeting in Cincinnati, OH.
- Erickson, W.P. and T. Nick. 1996. Investigating flight response of brant on the Izembek NWR, Alaska, using logistic regression techniques. Poster presented at the ASA meeting in Chicago.
- Erickson, W.P., November 1995. Habitat selection by moose on the Innoko National Wildlife Refuge in West-Central Alaska. Invited paper presented at the EPPL7 User's Conference, St. Paul, MN.
- Erickson, W.P., M.D. Strickland and L. Sharp. September 1995. Experimental design for the study of wind power effects on wildlife. Poster presented at the National Wildlife Society Meeting in Portland, Oregon.
- Erickson, W.P. and L.L. McDonald. July 1995. Practical aspects of adaptive sampling. Invited paper presented at the Western North American Region of the Biometrics Society, Stanford, CA.
- McDonald, L.L. and W.P. Erickson. November 1994. A shift in paradigm for statistical analysis in risk assessment. Paper presented at the Society of Environmental Toxicology and Chemistry, Denver, CO.
- Erickson, W. P. November 1994. An approximate solution to the Behran-Fisher's problem with application to NRDA and toxicity testing. Paper presented at the Society of Environmental Toxicology and Chemistry, Denver, CO.
- Erickson, W. P. and L. L. McDonald. November 1992. Formulations of hypotheses of assumed effect in bioassay. Paper presented at the Society of Environmental Toxicology and Chemistry, Cincinnati, OH.