



*Newsletter of the Biometrics
Working Group, The Wildlife Society
Edited by Christine Bunck
Volume 14, Number 2*

August 2009

Message from the Chair

Terry Shaffer

The start of the annual conference of the Wildlife Society (TWS) is coming up quickly. That means it will soon be time to cast your vote for new Officers and Board members. The Nominating and Elections Committee, chaired by Lianne Ball, has assembled an impressive list of candidates. Biographical sketches are included below along with election details. Take a moment to thank our candidates for their willingness to serve and continue the long-standing success of our organization.

The Membership Committee, chaired by Chad Bishop, selected two outstanding individuals to be recipients of Student Travel Grants from the Biometrics Working Group (BWG). It was my privilege to inform Christopher Bobryk and Jake Ivan of their selection. Learn more about Christopher's and Jake's research below, and plan to encourage and support them by attending their presentations in Monterey.

If you haven't already done so, please give some thought to submitting a proposal for a symposium or workshop at next year's conference. Khristi Wilkins, Technical Sessions Chair, is the person to contact with your ideas.

A highlight of this year's conference no doubt will be the BWG-sponsored workshop by Dr. Dennis Heisey on Bayesian survival analysis. Dennis is one of the best, so plan to attend and be prepared to exercise your brain and expand your knowledge of this important but challenging subject.

The annual BWG business meeting is scheduled for 11:30-1:30 on Monday, September 21, in Monterey. It is currently scheduled for the Portola Room. Put it on your itinerary and encourage a colleague to join you. BWG is fortunate to have a strong and active membership, but there is always room for more.

See you in Monterey!

Election of Officers and Board Members

Lianne Ball

Once again it is time for elections. This year we will be electing a Chair-Elect to serve one year and then to move onto the Chair and Past Chair positions; a Treasurer to serve two years; and four Board Members for various standing committees, each to serve one year.

Elections will be conducted electronically with the help of TWS. The voting will **start on Monday, 17 August, and end on Wednesday, 9 September**. TWS will

distribute an electronic ballot via email to individuals on the BWG membership list just prior to the start of the voting. You must have a valid e-mail address to receive an electronic ballot. Please update your e-mail address (if needed), by going to the TWS web site at joomla.wildlife.org and clicking on the 'Membership Login' tab or by contacting Lisa Moll at 301-897-9770, ext. 312 or at lisa@wildlife.org.

The outcome of the elections will be announced at the BWG annual meeting held at the 2009 TWS annual conference in Monterey. For details on duties of the offices and Board, consult the by-laws on the BWG web site at: joomla.wildlife.org/biometrics/.

Candidates for Chair-Elect:

Lianne Ball. Lianne is Assistant Coordinator for the Wildlife Program at the U.S. Geological Survey (USGS) and serves as the National Coordinator for the Amphibian Research and Monitoring Initiative. She has a B.S. in Biology from the University of South Alabama, a M.S. in Wildlife Management from Humboldt State, and a Ph.D. in Ecology, Evolution and Conservation Biology from the University of Nevada, Reno. She is currently a BWG board member. Lianne's interests are in energetics and the development and use of monitoring programs to inform wildlife management.

Stephen J. Dinsmore. Stephen is currently a wildlife ecologist (Associate Professor) in the Department of Natural Resource Ecology and Management at Iowa State University. He received a B.S. in Fisheries and Wildlife Biology from Iowa State University (1990), a M.S. in Zoology with a minor in Statistics from North Carolina State

University (1994), and a Ph.D. in Fishery and Wildlife Biology from Colorado State University (2001). Prior to his move to Iowa State, he was an Assistant Professor in the Department of Wildlife and Fisheries at Mississippi State University. His primary interests are avian ecology, population biology, capture-recapture analysis, and monitoring animal populations. His research program at Iowa State University emphasizes studies of avian population biology. He currently supervises 6 graduate students working primarily on issues of avian demography and habitat management. In addition to projects involving graduate students, he maintains his own research program with Mountain Plovers and collaborates with scientists on projects related to avian ecology, population biology, and sampling and study design issues. His teaching responsibilities include undergraduate courses in ecological methods and ornithology and a graduate course in avian ecology. He gives seminars and scientific presentations nationwide, and enjoys teaching workshops on the use of Program MARK and the analysis of wildlife demographic data. In his spare time, he enjoys bird-watching and traveling.

Candidate for Treasurer:

Bridgette Flanders-Wanner. Bridgette is a wildlife biologist for the U.S. Fish & Wildlife Service (USFWS), Huron Wetland Management District in South Dakota. She has a B.S. in Zoology from North Dakota State University and an M.S. in Wildlife Biology from Colorado State University. As Project Officer of a USFWS Dakota Grassland Monitoring Team initiative, she led the successful inventory of 90,000 acres of USFWS-owned native prairie throughout the Dakotas. Using the inventory data, she is currently leading a geospatial

investigation of environmental factors influencing invasion of native prairie by introduced grasses. She is also Principal Investigator of a project to develop and implement an adaptive management framework for managing native prairie in the Prairie Pothole Region. Her roles in these projects work synergistically with her professional interest in managing native prairies for grassland-dependent birds and biological integrity through sound science, partner collaboration, and adaptive management. She is the current Treasurer of two TWS Working Groups, the BWG and the Spatial Ecology & Telemetry Working Group, and the Past-President of the South Dakota Chapter of TWS; and has served as the BWG Secretary. She has work experience in the inventory, monitoring, and management of wildlife and plant populations on three National Wildlife Refuges (NWR) and two USFWS Wetland Management Districts in the northern Great Plains.

Candidates for Board members:

William R. Clark. Bill is a Professor of Ecology, Evolution and Organismal Biology at Iowa State University (ISU). He received his Ph.D. from Utah State University. He has always been interested in "what makes animal populations go up and down" so he and his graduate students have studied the dynamics of populations in relation to large-scale landscape changes, exploitation, and disease. He has studied organisms ranging from snails to deer and in habitats from agroecosystems to wetlands. Currently his research is focused on trying to couple field telemetry data with population genetics to understand the role of landscape configuration in the dynamics and dispersal of bobcats in Iowa and on using spatial statistical tools to model landscape effects

that link predator searching and predation rate on nesting ducks. He has found that a great benefit of being an ISU faculty member is that his research interests cause him to visit colleagues in the Statistical Laboratory in Snedecor Hall. He is a Past-President of the Iowa Chapter of TWS; twice has served as an Associate Editor of the Journal of Wildlife Management; and has served TWS on special committees evaluating grizzly bear dynamics and advising leadership on agricultural policy and wildlife. He previously served a term as a BWG Board Member.

Sarah Converse. Sarah is a Research Ecologist with USGS Patuxent Wildlife Research Center, in Laurel, Maryland. Sarah works in the Endangered Species Program and her research program is focused on whooping cranes and other endangered and threatened species. Sarah has a B.S. in Fisheries and Wildlife from Michigan State University (1996), an M.S. in Natural Resource Sciences from the University of Nebraska (1999), and a Ph.D. in Fishery and Wildlife Biology from Colorado State University (2005). Sarah's research interests are in applied population ecology and conservation, with particular interests in demographic estimation, modeling, and decision theory. Sarah has been a member of the BWG since 2004 and a member of TWS since 1999.

Duane Diefenbach. Duane is the Leader for the USGS Pennsylvania Cooperative Fish and Wildlife Research Unit at The Pennsylvania State University. His research interests focus on empirically testing statistical models used to estimate wildlife population parameters. He has served as the BWG Treasurer (1998) and Chair (2002) and is interested in serving again as a board member. He observes that the BWG has always been one of the more active and

successful working groups in TWS and believes much of its success has come from members willing to step forward and provide learning opportunities for TWS members at our annual meeting.

Paul Lukacs. Paul is a Biometrician for the Colorado Division of Wildlife where he aids in design and analysis of a wide range of wildlife research and management projects. He has an M.S. and Ph.D. from Colorado State University and a B.S. from the University of Montana. He has served as a BWG Board Member from 2004-2005.

Wes Newton. Wes graduated with a M.S. in Applied Statistics from Utah State University. Throughout much of his career, he has been employed as a consulting statistician/analyst with a variety of organizations, including the U.S. Army Test and Evaluation Command (4 years), the University of Idaho Statistics Consulting Center (1.5 years), and his current position with the USGS Northern Prairie Wildlife Research Center (19.5 years). In these positions, he has had many opportunities to work with scientists in several disciplines, but interacting with ecologists and wildlife biologists has been the highlight of his career. Although his statistical applications have been broad, recent research efforts have focused on improving wildlife-habitat models with light detection and ranging (LiDAR). In 2006, he organized a "LiDAR for Wildlifer's" symposium at the TWS annual conference in Anchorage. Wes was a keynote speaker at the 2008 Silvilaser Conference in Edinburgh, Scotland, where his presentation focused on the broad wildlife applications of LiDAR technologies. Wes has enjoyed and participated in numerous training opportunities, including symposia and workshops, provided by the BWG. Wes welcomes the opportunity to serve the BWG

as a board member and to contribute to this dynamic and relevant working group that has served him well since its inception.

Grey Pendleton. Grey has been a biometrician with the Alaska Department of Fish & Game since 1996. Previously he worked for 10 years as a biological statistician at the Patuxent Wildlife Research Center. His current work is divided between pinned research (population dynamics, survey methods, and habitat use by Steller sea lions and harbor seals) and ecology of temperate rainforest wildlife (brown bears, mountain goats, martens, and blacktail deer). Grey has M.S. degrees from South Dakota State University (wildlife) and the University of Wyoming (statistics). He has served 2 terms on the BWG board, 2 terms as secretary, and 1 term as chair elect – chair – past chair.

Christine A. Ribic. Chris is currently the Leader at the USGS Wisconsin Cooperative Wildlife Research Unit located at the Department of Forest and Wildlife Ecology, University of Wisconsin-Madison. Her ecological interests include grassland bird conservation at the landscape scale and climate change. Her quantitative interests are in the application of novel statistical methods to ecological problems and include spatial statistics, the information-theoretic approach, and computer-intensive methods. She is beginning to stick her toe into the Bayesian analysis pool. Chris has been a BWG Board Member (1999, 2000) and Chair (2002). She also has been active in organizing a variety of symposia at the national and Midwest TWS meetings. Chris along with Gail Olson and Steve Sheriff organized the symposium, "Biometrics in Wildlife: Looking into the Future", that was held at the 2009 TWS annual conference in Miami. She has found that the time she invests in her work with the BWG is paid

back in a big way with the opportunity to meet and interact with people from all over the country. She welcomes the opportunity to serve on the Board if elected.

Steve Sheriff. Steve has been a biometrician with the Missouri Department of Conservation since 1978. His current focus is on estimation of public use, constituent attitudes and harvest of hunters and anglers using survey methods. He is also active in estimation of species richness and abundance of fish and wildlife populations, and was instrumental in the design and implementation of a long-term forest management experiment in the Missouri Ozarks. He has made several presentations about this long-term forest management experiment during BWG symposia. Steve has B.S. and M.S. degrees from Colorado State University in wildlife biology. Steve has been an Associate Editor of the Journal of Wildlife Management. He also served BWG as co-chair of the steering committee, 1 term as chair – past chair, and 2 terms as a board member.

Workshop at the 2009 TWS Annual Conference in Monterey

The BWG is sponsoring a short course, “Wildlife Applications of Bayesian Survival Analysis Using WinBUGS” at the 2009 TWS annual conference in Monterey. It is scheduled for a full day on Thursday, 24 September, the final day of the conference. Dennis Heisey is the primary instructor for the course.

The goal of this workshop is to teach participants how the Bayesian software program WinBUGS can be used for flexible and powerful modeling and estimation of survival and other event rates. The intended audience is quantitative researchers and

biometricians involved in analyzing survival and other event rate data in wildlife and ecology. The workshop will be most meaningful to participants who have had basic calculus and introductory probability theory.

The workshop will have both theoretical and applied components. The theoretical component will present the theory of events in time from a hazard function theory perspective. This leads to a development of the types of likelihood functions that arise in wildlife survival and related analyses.

The applied component will then examine how these likelihoods are implemented in WinBUGS to obtain biologically meaningful analyses. Analyses will focus on real-world problems that include simultaneous multiple time scales (i.e., age and calendar time), interval-censoring, covariate analyses, spatial models, random effects (frailty) models, cause-specific mortality, and other topics as time permits.

Example data sets include radiotelemetry, nest survival, and disease prevalence. The pros and cons of Bayesian approaches versus traditional methods such as Kaplan-Meier and Cox will be considered, along with basic Bayesian background. Substantial previous experience with WinBUGS is not required, but it would be very desirable for participants to have WinBUGS installed on their laptops and to have worked through the tutorial prior to the workshop.

A flash drive with notes, example data sets, and example code will be provided to participants.

Student Travel Grants for the 2009 TWS Annual Conference

Chad Bishop, Gail Olson, and Bridgette Flanders-Wanner

The BWG has awarded student travel grants totaling \$2,500 to Christopher Bobryk and Jacob Ivan to attend the annual TWS annual conference in Monterey, California.

Christopher Bobryk worked as an associate scientist for an environmental consulting firm, where he observed first-hand the importance of statistics in decision-making processes that affected clients and other stakeholders. As a result, Christopher returned to school with an interest in biometrics and is currently pursuing a M.S. in Biological Sciences at Eastern Illinois University under the direction of Dr. Karen Gaines and Dr. James Novak. Christopher will present a paper titled "A spatially explicit model to predict white-tailed deer radiocesium body burdens on the Department of Energy's Savannah River Site." Karen Gaines and Susan Dyer are coauthors. His paper will be presented in Session 27 which starts at 8:30 am on Tuesday, 22 September.

Jacob Ivan has a M.S. in Wildlife Biology from University of Montana. After working as a professional wildlife biologist for The Nature Conservancy and U.S. Fish and Wildlife Service, Jake returned to school and is pursuing a Ph.D. in Wildlife Biology at Colorado State University under the direction of Dr. Gary White. Jake has placed considerable emphasis on mathematical statistics and will present a paper titled "Comparison of methods for estimating density from capture-recapture data." Coauthors are Gary White and Tanya Shenk. His paper will be presented in Session 37 which starts at 8:30 am on Wednesday, 23 September.

Proposals for Sessions at the 2010 TWS Annual Conference in Snowbird, Utah

Khristi Wilkins

Do you have an idea for a biometrics session for the 2010 TWS annual conference in Snowbird, Utah to be held 19-23 September? Current options for sessions include workshops, symposia, round tables, panel discussions, & special poster sessions. Please consider submitting a 1-2 page proposal describing your idea. The proposal should include a brief introduction discussing the importance of the topic, a short description of the session, and (for symposia and panel discussions) a list of potential speakers and/or topics.

Please email your proposals to Khristi Wilkins at Khristi_Wilkins@fws.gov by 31 August 2009 so we can distribute them to BWG members prior to the annual business meeting to be held at the TWS Annual Conference in Monterey.

Treasurer's Report

Bridgette Flanders-Wanner

The balance as of 26 July 2009 reflects memberships paid through March 2009. Membership dues from the second quarter (April – June 2009) have not as yet been received. At the end of March, BWG had 67 members, but this number has more than doubled since then. Expenditures of \$2,500 for two student travel grants to attend the TWS annual conference in Monterey will occur in the third quarter and are not included below.

Balance as of 15 Feb 2009	\$12,553.76
<i>Income</i>	
Dues (2008 4 th quarter)	351.00
Dues (2009 1 st quarter)	268.00
Interest	2.05
Total Income	\$621.05
<i>Expenses</i>	
None this period	0.00
Total Expenses	\$0.00
Balance as of 26 Jul 2009	\$13,174.81

Biometrics Listserv

The Biometrics Listserv sponsored by the BWG is up and running. Subscribers should have received 2 messages in July. To post a message to all list subscribers, send the email to:

Biometrics_tws@wildlifeprofessional.org

Most BWG members are already listserv subscribers and received a welcome message on 21 March 2009. If you did not receive this message or have not received other recent messages in July, then you need to subscribe to listserv. To subscribe for the Biometrics Listserv or to manage your current subscription, go to the BWG web site at: joomla.wildlife.org/biometrics/ and click on the link for the Biometrics Listserv near the bottom of the web page.

Member News

New Personnel at WEST, Inc. Fawn Hornsby began a position at the WEST, Inc., Laramie Office, in February, 2009. Previous to employment with WEST, Inc., she attended North Carolina State University and received her B.S. in statistics and B.S. in applied mathematics, as well as a minor in biology. Fawn has had prior experience in a wide variety of fields including statistics, biology, and engineering. She has worked with and analyzed datasets measuring mercury air pollution, wetland environmental agents, and breast cancer population characteristics. At WEST, Inc., Fawn has been immediately initiated into the real world of biometrics, data collection and statistical analysis, including participation in the 5th Golden Eagle Survey conducted for the US Fish and Wildlife Service where she will be an observer as well as helping to analyze the data.

Biometrics Working Group Contact Information for Current Officers and Board Members

Chair	Terry Shaffer, USGS Northern Prairie Wildlife Research Center, tshaffer@usgs.gov
Chair-elect	Chris Bunck, USGS National Wildlife Health Center, cbunck@usgs.gov
Secretary	Gail Olson, Washington Department of Fish and Wildlife, gail.olson@dfw.wa.gov
Treasurer	Bridgette Flanders-Wanner, US Fish and Wildlife Service, Huron Wetland Management District, FlandersWanner@hotmail.com
Past-Chair	Bill Gould, New Mexico State University, wgould@nmsu.edu
Board member – Nominating & Elections	Lianne Ball, USGS Biology Science Office, lball@usgs.gov
Board member – Membership & Student Travel Grants	Chad Bishop, Colorado Division of Wildlife, chad.bishop@state.co.us
Board member – Technical Sessions	Khristi Wilkins, US Fish and Wildlife Service, khristi_wilkins@fws.gov
Board member – Advisory & Audit	Mike Conroy, USGS Georgia Cooperative Fish and Wildlife Research Unit, mconroy@usgs.edu