



*Newsletter of the Biometrics
Working Group, The Wildlife Society
Edited by Terry Shaffer
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Message from the Chair

Giving Back– *Bill Gould*

If you're like me, you receive all kinds of opportunities to donate your hard-earned money to everything from Unicef to the Leukemia Society to The Nature Conservancy. I tend to focus on the organizations that provide the bare essentials: food, clothing and shelter. So where does The Wildlife Society rank on my list? It hasn't been very high. Recently, my old graduate advisor informed me of an effort to create a scholarship fund in Dr. Cavell Brownie's name at North Carolina State University. I am sure you are all familiar with her contributions to wildlife biometry. Dr. Brownie served on my PhD committee and if I recall, she raked me over the coals at my defense. So what do you think I did? This is one of those instances when I thought, 'This is a good time to give back.' Now, I appreciate the rigor that Dr. Brownie was trying to illicit from me (funny how your perspective changes as one matures). So why am I mentioning this to you? I simply want you to think about how you can 'give back' to the profession, past mentors, or to an organization of which you are a member. There are many ways to do so; donating money is only one means of showing your appreciation. Take the time to nominate a worthy colleague for an award, volunteer to serve as a referee or associate editor, or serve as an officer (I am

shamelessly priming you for the call for new officers this summer). In other words, give something back.

Tucson Meeting highlights

Last year Tucson provided a great setting for the 14th Annual Conference of The Wildlife Society. The BWG sponsored two workshops and one symposium. The workshop *Estimation of Population Change from Count Data*, presented by John Sauer, Bill Link, Andy Royle and Beth Gardner, was the first presentation of their workshop on analysis of count survey data using hierarchical models. They provided lectures and examples of a variety of modeling applications that addressed analyses of multiple spatial scales, model selection, spatial pattern, and occupancy. The workshop was fully booked and numerous people had to be turned away. The 24 participants spanned a large range of interests and understanding of the topic. Time constraints and the large variation in participant experience with computing limited the number of hands-on exercises, although all users were provided with a CD containing lectures, examples, and relevant programs.

Trent McDonald and Bryan Manly offered the workshop *Introduction to Modern Methods for Analyzing Capture-Recapture Data* that was attended by 52

individuals, most of whom were biologists. The workshop consisted of 4 sessions, alternately taught by the two instructors. The first session covered history of and motivation for many of the classic closed population capture-recapture methods. The second session introduced more recent closed population models that admit covariates and regression-type analyses. The final two sessions were parallel to the first two, but covered classic and modern open population models. Many examples were worked during the course of the lectures, many using Excel to illuminate the calculations, and it is hoped that all who attended could better converse about capture-recapture studies after attending. During one particular example, a “live” capture-recapture experiment to estimate the number of students in the room was worked, and the instructors would like it noted that the final answer was only off by 0.4 students!

The 2007 half-day symposium, *Biometrics in Wildlife: Past, Present and Future*, organized by Steve Sheriff, Gail Olsen and Chris Ribic was a success even though it was held during the morning of the last day. The distinguished panel of speakers drew a very large audience. The speakers covered three topic areas during this symposium. Jim Nichols highlighted the past, present and future of population, occupancy, and species richness estimation. Gary White focused on survival analysis, and Lyman McDonald addressed resource selection. Presentations highlighting the application of these topic areas were presented by Larissa Bailey talking about the use of occupancy estimation for amphibians, Jay Rotella presented an application of estimating survival for seals in the Antarctic, Doug Johnson and Terry Shaffer covered nest success and current methodologies, and Eve Merrill illustrated the interpretation of resource selection

functions. Thanks go out to all of the workshop and symposium organizers for executing another round of educational sessions and furthering the use of biometrics within wildlife biology.

15th Annual Conference

The 15th Annual Conference of The Wildlife Society will be held in Miami, Florida, during 8-12 November 2008. Conference program highlights, including workshops and a symposium sponsored by BWG, can be viewed at <http://joomla.wildlife.org/Miami08/>.

Upcoming Workshops

Regression Modeling for Habitat Selection Using GPS Data – *Ryan Nielson*

This BWG-sponsored workshop, organized by Ryan Nielson, Hal Sawyer, and Lyman McDonald, is scheduled for 8 November at the 15th Annual Conference in Miami, Florida. The purpose of this workshop is to improve understanding of modern methods for retrospective modeling of resource/habitat selection by animals when large sets of Global Positioning System (GPS) data are available for multiple tagged animals. The main focus will be on scenarios where detection bias can be ignored, i.e., when GPS fix success approaches 100%, and there are negligible missing data in the time series of relocations of radio-tagged animals. However, methods and results of recently developed techniques that deal with significant detection bias and missing data will also be presented. The full-day workshop will be based largely on methods presented in Sawyer et al. (2007; Habitat selection of Rocky Mountain elk in a non-forest environment; *Journal of Wildlife Management* 71:868 – 874). Data sets and R computer programs will be made available to participants on a DVD/CD.

Structured Decision Making and Adaptive Management: A Morality Play in Four Acts, With Geek Chorus—*Clint Moore*

The Biometrics Working Group will also be sponsoring a workshop on structured decision making and adaptive management at the 2008 Annual Conference in Miami. The workshop, organized by BWG members Clint Moore, Mike Conroy, and Ken Williams, will take an unconventional tack in introducing and illustrating the elements of structured decision making. Following an introductory presentation on the topic, an invited set of “actors” – resource managers, scientists, and administrators – will mimic their real-life professional roles in a simulated decision structuring exercise for an actual resource management issue in south Florida. The simulation will be designed to reveal the interplay among the four structural elements of decision making: the management objective, the decision set, predictive models, and monitoring systems. The role-playing exercise will also mimic real experiences that arise among any set of team members with diverse backgrounds and constituencies; e.g., side issues and diversions, undisclosed objectives, disagreement about risk, etc. At key points, the simulation will be paused to allow interactive discussion with the workshop audience. The simulation will conclude with the actors presenting a draft decision structure, followed by a moderated discussion between the audience, actors, and organizers. The target audience member is anyone with an interest in principles and methods of structured decision making, including resource biologists, scientists, agency administrators, and students. To encourage a productive discussion atmosphere, attendance will be kept to a manageable size; however, organizers plan

to video-record the entire workshop and serve up the proceedings on the Internet.

Upcoming Symposium

Steve Sheriff

The Biometrics Working Group was once again successful in having their proposal for a symposium at the TWS Conference accepted. Plan on attending the 2008 TWS Conference and the Biometrics Working Group symposium entitled, *Biometrics in Wildlife: Looking into the Future*. This symposium is the second-half of our 2007 symposium that we sponsored during the TWS Conference held in Tucson, Arizona. The topics for the 2008 symposium should prove equally informative. We will be highlighting the use genetics for estimating populations especially as a noninvasive technique for elusive species, Bayesian analyses and their application, and spatio-temporal statistics. Doug Johnson will introduce the symposium and provide his vision of the future of biometrics in wildlife followed by our topic speakers. Topic speakers have been confirmed with Lisette Waits addressing the issues of using genetics, Bill Link talking on (or is that, selling) Bayesian analyses, and Chris Wikle covering spatial statistical methods. Each of these distinguished speakers will be followed with presentations illustrating the application of these techniques that should be of great benefit to the future of biometrics in the wildlife profession.

Special Section Published

A special section of papers on observational studies was published in the January 2008 issue of *The Journal of Wildlife Management*. The papers in this special section are from a symposium organized by Terry Shaffer and Doug Johnson on observational studies at the twelfth Wildlife

Society conference in Madison, WI. The purpose of that symposium was to share information on strategies for designing observational studies and analyzing data from them, and to foster a better understanding of the potential and the limitations of observational studies.

BWG Student Travel Grant

The Biometrics Working Group is offering student travel grants of up to \$2,500 for TWS student members presenting papers or posters at the annual Wildlife Society meeting. The purpose of the grants is to promote student interest in biometrics. Applicants must be students and members of The Wildlife Society. Preference will be given to applicants who demonstrate strong statistical or mathematical skills. To be considered, submit: 1) a request for award (1 page max) that documents your interest in applying quantitative methods to wildlife/ecological research; 2) a letter of support from a mentor or supervisor; and 3) an abstract of the paper or poster being presented at the meeting (formatted according to the meeting guidelines). Once the BWG web page is up, there will be a link to information and an application. The deadline for submission of travel grants is July 1, 2008. Please share this announcement with eligible students. For more information or to submit an application, contact:

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Treasurer's Report

Clint Moore

The balance as of 19 February 2008 reflects memberships paid through December 2007,

which includes a few 2007 memberships and 88 new and renewal memberships for 2008. The balance also reflects income from the workshop in Tucson. At the Tucson meeting, the Working Group approved a financial contribution to TWS to continue its IT/web development.

Balance as of 19 Sep 2007	\$14,271.44
Income	
Dues (2007 memberships)	\$24.00
Dues (2008 memberships)	352.00
Workshop fees (2007)	805.00
Interest	3.05
Total Income	\$1,184.05
Expenses	
Student travel support (2007)	\$200.00
TWS – IT/web contribution	1000.00
Total Expenses	\$1,200.00
Balance as of 19 Feb 2008	\$14,255.49

Scholarship Fund

In recognition of Dr. Cavell Brownie's distinguished career at North Carolina State University, funding is being solicited to establish the Cavell Brownie Faculty Mentoring Award in the NCSU Physical and Mathematical Sciences (PAMS) Foundation. Dr. Brownie not only developed new statistical methodology, she believed in the importance of seeing that sound statistical methods reach the scientists. Throughout her career, Cavell has given generously of her time and ideas to young faculty and graduate students. If you would like to make a

pledge, go to
<https://www3.acs.ncsu.edu/pams/> Type
“Brownie Award” when asked how to
 earmark your gift.

BWG Contact Information

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