

## **I. Personal Information**

Name: William R. Gould

Department: Economics/University Statistics Center

Nature of Proposal: Tenure and Promotion to Associate Professor

Date: August 27, 1999

Date of Last Promotion: N/A

### **Nature of Employment:**

Dates: June 30, 1996 to present

Appointment: Department of Economics/International Business and University Statistics Center

Funding: Approximately 45% Instruction and General, 55% University Statistics Center

Dates: September 28, 1994 to June 30, 1996

Appointment: Department of Experimental Statistics and University Statistics Center

Funding: Approximately 50% Instruction and General, 25% Agricultural Experiment Station and 25% University Statistics Center

### **Nature of Appointment**

My responsibilities can be described in three major categories of Teaching, Intellectual Contributions, and Service:

#### **Teaching**

The teaching component of my appointment encompasses teaching graduate courses, some of which are geared to our masters program or designed for other departments, and undergraduate service courses. My teaching load has ranged between 8 to 10 credit hours per school year.

Teaching also includes advising students, serving on graduate committees, supervising theses, team teaching, developing new courses and presenting guest lectures. I have supervised two masters students in statistics and served on an average of 18 graduate committees (masters and Ph.D.) each year. I have given guest lectures for colleagues in statistics and biology.

**Intellectual Contributions**

Contributions in this area have been drawn from both my I&G appointment and University Statistics Center (USC) appointment. The mission of the USC, as stated in the university's Academic Policies and Procedures is "*to promote excellence in research at NMSU. This is accomplished by providing statistical consulting and other statistical services for the research staff of the university.*" Evidence of contributions through my consulting is primarily evident in my coauthorships with various papers presented at scientific meetings. A vast majority of my consulting clients have not published papers, many of whom I have worked with 20 hours or more. Although we do not have official release time for statistical research, I have attracted external funding from several governmental agencies and conducted statistical research with ecological applications during my career at NMSU. Such activities have resulted in completion of first-authored papers. I have also presented 8 papers at academic meetings and given 4 presentations at symposiums and professional organizations.

**Service**

My service expectations include participation on departmental, college, and university committees. I have also provided service to my profession in the form of refereeing papers every year, participation in professional societies, and external consulting.

## II. Teaching { PRIVATE }

### A. Courses Taught and Number of Students

#### 1. Undergraduate Courses (\* indicates new prep. or complete overhaul of course)

<u>Semester</u>	<u>Course</u>	<u>Name</u>	<u>Credits</u>	<u>Students</u>
Spring '95	EST 251*	Statistics for Business	3	21
Fall '95	EST 251	Statistics for Business	3	54
Fall '96	EST 251	Statistics for Business	3	38
Spring '97	EST 251	Statistics for Business	3	18
Spring '98	EST 311*	Statistical Applications	3	62
Spring '99	EST 311	Statistical Applications	3	61
Fall '99	EST 311	Statistical Applications	3	55
Spring 2000	EST 311	Statistical Applications	3	61

#### 2. Graduate Courses

<u>Semester</u>	<u>Course</u>	<u>Name</u>	<u>Credits</u>	<u>Students</u>
Spring '95	EST 523*	Sampling Biological Populations	2	4
Fall '95	EST 521*	Sampling Methodology	2	8
Spring '96	EST 523	Sampling Biological Populations	2	9
Spring '96	EST 550*	Advanced Biological Sampling	1	2
Fall '96	EST 521	Sampling Methodology	2	7
Spring '97	EST 523*	Sampling Biological Populations	3	8
Fall '97	EST 521	Sampling Methodology	2	6
Fall '97	EST 551*	Introduction to Statistical Consulting	1	3
Spring '98	EST 523	Sampling Biological Populations	3	6
Spring '98	EST 553*	Statistical Consulting Practicum	1	5
Fall '98	EST 521	Sampling Methodology	2	7
Fall '98	EST 551	Introduction to Statistical Consulting	1	6
Spring '99	EST 523	Sampling Biological Populations	3	8
Spring '99	EST 553	Statistical Consulting Practicum	1	2
Fall '99	EST 523	Sampling Methodology	2	10
Fall '99	EST 551	Introduction to Statistical Consulting	1	4
Spring 2000	EST 523	Sampling Biological Populations	3	14

### B. Innovations and Restructured Courses

EST 251 is an undergraduate course taught primarily for business majors, although occasionally the class will have students from psychology, hospitality and tourism, government, and nursing. Students typically are intimidated by the course in the beginning. I motivate students by demonstrating that they are presented with information (data) every day of their life and the importance of critically viewing and interpreting that information. As examples throughout the semester, I read current newspaper and magazine articles to the class and ask them to interpret the information being presented and to consider potential biases, lurking variables, etc. I also make it very clear that statistics are inherent in practically every field of study and that they will most likely utilize statistical methods in their careers. On occasion, I present descriptions of research projects I have been involved in through my consulting to illustrate such topics as poorly

designed experiments, nonrandom sampling, pseudoreplication, etc. My attendance at a workshop on SAS INSIGHT has lead me to demonstrate many topics using a laptop and projection unit.

I have used the Annenburg CPB Series "Against All Odds" videos in E ST 251 to solidify some of the major concepts of the course and to present real world applications of the knowledge they are attaining.

I offered review (help) sessions in evenings prior to each EST 251 exam and developed outlines of the topics covered to further clarify any concepts or problems with course material.

I supervised and tutored a teaching assistant who was in charge of two sections of the laboratory for EST 251.

I have given midsemester evaluations to students to identify the strengths and weaknesses of the course so that I may be proactive in meeting the needs of my classes.

I invited Mark Resmini, Operations Manager from Safeco, to speak to my EST 251 class about his corporation and the usefulness of statistics in the workplace.

I have asked students to write "one-minute" papers listing questions about material covered during lecture, which I later answered in laboratory sessions. This technique elicits questions which students are sometimes to shy or embarrassed to ask during class.

In both EST 251 and EST 311, I have used playing cards, dice, coins, and poker chips to illustrate the concepts behind probability and sampling methods.

In EST 311, I have developed a computer demonstration in which students were shown an interactive data analysis (Using SAS INSIGHT) of data collected on categorical and quantitative variables of students in the class. Topics included the Central Limit Theorem, regression, residual plots, effects of outliers, distribution plots, box plots, etc.

EST 521 is an elective course that primarily consists of graduate students in statistics. The theory of design-based and model-based sampling is examined in the course. As part of the laboratory for the course, I have students estimate the number of trees on campus by sampling sections of the campus. This exercise has become very useful for illustrating the concepts of a sampling frame, sampling units, boundary error, logistical problems inherent in fieldwork, etc. In 1998 and 1996, the class used a simple random sample, whereas in 1997, a stratified sampling approach was used to examine the gains in precision made.

EST 523 is a course on biological sampling, which has been taken primarily by students in biology, fisheries and wildlife, and range science. In 1995, I team taught the course with Dr. Manuel Cardenas. In 1996, I offered an advanced biological sampling course (EST 550) to extend the coverage of material presented in EST 523. In 1997, I revised the entire course and increased the credit rating to allow a more thorough and updated coverage of biological sampling. A variety of sampling methods for measuring plant and animal populations including quadrat sampling, point and line intercept methods, plotless methods, distance sampling, capture-recapture, removal methods, catch-effort estimation, etc., are presented in class. Both program MARK and DISTANCE are demonstrated in class. Students are required to critique published articles as if they were submissions to a journal and to give verbal presentations to the class, which are peer-evaluated.

Each year, I have arranged for a field trip in EST 523 with Dr. Rex Pieper, of the Range Science Department, who demonstrates and discusses the sampling techniques (quadrats, line intercept, point intercept, etc.) presented in class.

I have required students to present a research project to the class for evaluation by their peers and myself. The presentations were of direct interest to the subject matter of the course. In addition, it gave the students public speaking/presentation experience and demanded that the students think critically about the type of information presented at professional meetings.

The last two years, I have required students to summarize and critique (as if a reviewer) published articles on plant and animal sampling as take-home components of their exams. This exercise has been highly regarded by the students and attempts to improve their critical thinking skills.

In 1999, I began demonstrating two software packages, Program MARK, for demographic estimation using marked animals and program DISTANCE, for the purpose of density estimation based on animal observations. I attended a short course in Scotland on programs MARK and DISTANCE to increase my knowledge of the programs for my classes and my consulting and research interests.

EST 551 and ESTAT 553 are consulting courses in which students gain experience in the art of statistical consulting. In the introductory class (EST 551), students learn about the nonstatistical aspects of consulting.

Since I have taught EST 551, I have devised a role playing activity in which I conduct a consulting session with a client, during which, we play different roles. My client has played roles ranging from a domineering-type, to a (unknowingly) bad scientist, to a dependent/indecisive client. I play roles ranging from a 'nit picker', to a 'data miner' to a 'model builder'. The purpose of the role playing is to demonstrate how both verbal and nonverbal actions can influence the success of a consulting session.

In 1997, I arranged for my consulting class (EST 551) to observe laboratory work on clam shrimp (consulting client in biology) to illustrate how much can be learned by getting involved with your clients' research. In 1998, I arranged for my class to visit a field site on the Jornada Experimental Range where a Ph.D. student has been conducting animal and vegetation surveys and to visit an on-campus laboratory where a biology student is studying scrub jay foraging performance.

I have required EST 551 students to research the history of a statistical topic of their choice, including the key persons that developed the techniques/concepts to give them a better historical perspective on subjects to which they are currently being exposed. Each student then gave a verbal presentation to the class summarizing their findings and developed a bibliography that listed pertinent references to the material.

I have arranged for Dr. Sylvia Ortiz, Associate Professor in Library References to give an orientation to my EST 551 consulting classes.

I have arranged for Terry Cook from the Center for Learning Assistance to address my EST 551 consulting class to interpret the cognitive style mapping (learning) styles of the class.

In our consulting practicum class (EST 553), in which students gain "hands on" experience in consulting. I have emphasized the importance of participating in the field or laboratory work of their clients. I have taken my class to field sites and laboratories of clients with whom I have been working. I also try to "practice what I preach", by participating in the fieldwork of many clients. My activities with clients include: collections of cormorant chicks, water and sediment samples for mercury analysis at Elephant Butte and Caballo Reservoirs, reptile and amphibian collections and surveys, avian surveys and power line surveys for electrocution strikes, the capture and banding of burrowing owls and scaled quail, and flights in a fixed-wing plane and a helicopter as part of a mark-resight survey of an elk population.

In 1999, my EST 553 consulting class visited the lab of a wildlife master's students studying kangaroo rats and grass preference. The purpose for such visits is to demonstrate the value of taking a more active role in a client's research and to emphasize the gains in knowledge about research projects that cannot be attained in the office.

In 1999, I demonstrated the use of SAS/INSIGHT for exploratory data analysis to my consulting class.

## C. Teaching Effectiveness

### Peer Evaluation

I have been observed in the classroom by Drs. Leigh Murray, David Smith, Manny Cardenas, Marta Remmenga, Robert Steiner, David Weeks, all from Experimental Statistics and Dr. Ana Huerta-Macias, an associate professor in Curriculum and Instruction who was my partner in a peer coaching program sponsored by NMSU. Letters from these individuals are in Appendix III.

### Student Evaluations

Summaries of student evaluations are included in Appendix III. Responses to specific questions regarding instructor performance have been placed into tables. Original response sheets and handwritten comments are available for all classes upon request.

## D. Other Teaching Activities

### *Graduate Advising*

I have served as the major advisor for 2 ESTAT graduate students (Sandra Lewis and Michelle Zeisset) and have served as a temporary advisor to 3 other ESTAT masters students (Haiying Dong, Michael Smith, and Kathy Weaver).

Sandra Lewis graduated under my direction in December of 1997. Sandy's masters project was the basis for a research completion report submitted to the Biological Resources Division of the US Geological Survey and has been submitted as a manuscript to a peer-reviewed journal. I acquired funding for a research assistantship to support Sandra for one full year. In addition, I arranged for her to attend the 1995 Raptor Research Meetings in Duluth, MN, a Raptor Monitoring Workshop in Boise, Idaho, in 1996, and to give an oral presentation at the 1997 Hawk Migration Association of North America Annual Meeting in Snowbird, Utah.

Michelle Zeisset is currently conducting her research entitled Effects of measurement error on population size estimates from the joint hypergeometric estimator in mark-resight studies.

I have been active in informing our students of job listings and internship opportunities via email and by posting announcements on the bulletin board outside my office.

### *Graduate Committee Service\**

Year	Masters	Doctoral
1994	3	0
1995	6	0
1996	15	2
1997	16	1
1998	15	6
1999	14	6

\* A detailed listing of student names and departments is given in Appendix III.

### *Teaching Improvement Activities*

Attended teaching seminars:

Visual thinking in the classroom Oct. 21, 1994  
Using visual analogies in the college classroom Jan. 20, 1995  
Using technology in the college classroom April 7, 1995  
Integrating teaching, research and service March 29, 1996

Attended EEO Sensitivity Matters Workshop. Nov. 29, 1994

Attended several paper presentations from the Section of Statistical Education at the 1995 Joint ASA/Biometrics Meetings in Orlando, August 1995.

Attended the Western Regional Teaching Symposium, NMSU, Sept. 22-23, 1995

Attended the American Assembly of Collegiate Schools of Business Video Conference on Teaching Portfolios and Student Evaluations: Tools for Faculty Development. November 15, 1996

Participant in the Peer Coaching program sponsored by the Center for Educational Development Spring, 1997.

*Cross Functional Teaching Activities*

(1997) Guest lecture in Dr. Laura Huenneke's BIOL 450/550 on population growth.  
(1997) Guest presentation to Dr. David Daniel's ESTAT 552 class  
(1996) Guest lecturer for Dr. Marta Remmenga's ESTAT 506 class

*Other*

I have written letters of recommendation for several of our ESTAT students pursuing masters and doctorates at other locations.

I contributed to the development of a standard student evaluation form used by the ESTAT department to evaluate teaching performance.

### III. Research and Other Scholarly Activity

#### A. Publications in Peer Reviewed Journals

- Lewis, S.A, and **W.R. Gould**. 2000. Survey method effects on power to detect trends in raptor migration counts. *Wildlife Society Bulletin*.
- Gould, W.R.**, L.A. Stefanski, and K.H. Pollock. 1999. Use of simulation-extrapolation estimation in catch-effort analyses. *Canadian Journal of Fisheries and Aquatic Sciences*. 56:1234-1240.
- Caldwell, C.A., M.A. Arnold and **W.R. Gould**. 1999. Mercury distribution in blood, tissues, and feathers of double-crested cormorant (*Phalacrocorax auritus*) nestlings from arid-lands reservoirs in southcentral New Mexico. *Archives of Environmental Contamination and Toxicology* 36:456-461.
- Gould, W.R.** and J.D. Nichols. 1998. The estimation of temporal variability of survival in animal populations. *Ecology* 79: 2531-2538.
- Young, K.E., R. Valdez, P.J. Zwank and **W.R. Gould**. 1998. Density and roost site characteristics of spotted owls in the Sierra Madre Occidental, Chihuahua, Mexico. *Condor* 100: 732-736.
- Gould, W.R.** and K.H. Pollock. 1997. Catch-effort estimation of population parameters under the robust design. *Biometrics* 53: 207-216.
- Gould, W.R.** and K.H. Pollock. 1997. Catch-effort maximum likelihood estimation of important population parameters. *Canadian Journal of Fisheries and Aquatic Sciences* 54:890-897.
- Gould, W.R.**, L.A. Stefanski, and K.H. Pollock. 1997. The effects of measurement error on catch-effort estimation. *Canadian Journal of Fisheries and Aquatic Sciences* 54:898-906.
- Hatfield, J.H., **W.R. Gould**, B.A. Hoover, M.R. Fuller, E.L. Lindquist. 1996. Detecting trends in raptor counts: power and type I error rates of various statistical tests. *Wildlife Society Bulletin* 24:505-515
- Gould, W.R.** and M.R. Fuller. 1995. Survival and population size estimation in raptor studies: a comparison of two methods. *Journal of Raptor Research* 29(4):256-264.
- Technical Reports*
- Thompson, B.C., J. Pushchok, D. Brubaker, K. Brubaker, **W.R. Gould**, M.A. Munson- McGee, M.A. Andersen and B. North. 1999. Bird Species of Special Concern: Occurrence, Habitat Associations, and Potential Adverse Impacts at White Sands Missile Range. Research Completion Report to White Sands Missile Range, NM, Research Work Order No. 21, NM Coop. Fish and Wildlife Res. Unit, Las Cruces, 105 pp.
- Gould, W.R.** and S.A. Lewis. 1998. An analysis and evaluation of migrant raptor counts in North America: a power assessment. Research Completion Report to U.S. Geological Survey, Biol.

Resour. Div., Research Work Order No. 25, NM Coop. Fish and Wildlife Res. Unit, Las Cruces, 57 pp.

Maechtle, T.L. Spring and Autumn 1997 Peregrine Falcon Migration Studies at Padre Island, Texas. 1998. (I was a contributing author).

Report of a Workshop to Develop a North American Raptor Monitoring Strategy. 1997. Publicly available at <http://www.im.nbs.gov/raptor/raptor.html> (Large group authorship, of which I was a major participant)

*Work under review*

Hollenbeck, V.G., N. Zucker, **W.R. Gould**, and S.C. Weeks. (In revision) Maintenance of androdioecy in the freshwater shrimp *Eulimnadia Texana*: sexual encounter rates and outcrossing success. *Behavioral Ecology*.

Sipos, M. P., M.C. Anderson, W.G. Whitford and **W.R. Gould**. (In prep.). Graminivory in two species of kangaroo rats. *Oecologia*

Steiner, R.L., **W.R. Gould**, and J.L. Folks. (In prep.) An improved estimator for the negative binomial shape parameter. *Journal of Agricultural, Biological and Ecological Statistics*.

Brubaker, K.L., B.C. Thompson, and **W.R. Gould**. (In prep.) Avian habitat use related to plant phenology in the Chihuahuan Desert, New Mexico. To be submitted to *Condor*.

Seegar, W. S., M.A. Yates, T.L. Maechtle, **W.R. Gould**, M.R. Fuller, and L.S. Schueck. (In prep.) Population trends of peregrine falcons migrating through the eastern and central United States. To be submitted to *Journal of Wildlife Management*.

**Papers and Posters Presented** (\* indicates presenter)

*Invited papers*

**Gould, W.R.\*** and K.H. Pollock. 1995. Catch-effort estimation of population parameters under a robust design. Presented at the 1995 Joint Statistical Meetings in Orlando, Florida, Aug. 13-17.

**Gould, W.R.\*** and S.A. Lewis. 1996. An overview of hawk migration count data methodology and analytical procedures. Raptor monitoring workshop. Aug 12-13.

Lewis, S.A.\* and **W.R. Gould**. 1997. An investigation of the utility of hawk counts for monitoring purposes. HMANA Conference VIII. Snowbird, Utah, June 12-15.

**Gould, W.R.** 1999. The ups and downs of raptor migration counts: an overview. Raptor Research Foundation Annual Meeting, Baja, Mexico, Nov. 3-6.

*Papers and Posters Presented at Academic Meetings*

- (1999) **W.R. Gould\***. An introduction to the analysis of capture-recapture data using program MARK. 32<sup>nd</sup> Joint Meeting of Arizona and New Mexico Wildlife Society and American Fisheries Society, Feb. 4-6, Gallup, NM.
- (1999) Sipos, M.\* , M. Andersen, W. Whitford, and **W.R. Gould**. Graminivory by *Dipodomys ordii* and *D. Merriami* on four species of perennial grasses. 32<sup>nd</sup> Joint Meeting of Arizona and New Mexico Wildlife Society and American Fisheries Society, Feb. 4-6, Gallup, NM.
- (1999) Alkon, P.\* , W.G. Whitford and **W.R. Gould**. Habitat conservation priorities for wintering birds in an engineered landscape: the middle Rio Grande Valley, USA. 2nd International Wildlife Management Congress, June 28-July 2, Godollo, Hungary.
- (1999) Kuhne, W.W.\* , C.A. Caldwell, **W.R. Gould** and P. Frescez. Effects of depleted uranium on the survival and reproduction of *Ceriodaphnia dubia*. 20<sup>th</sup> annual meeting of the Society of Environmental Toxicology and Chemistry, Philadelphia, Nov. 14-18.
- (1998) **W.R. Gould\*** and S.A. Lewis. Survey methodological effects on power to detect trends in raptor migration count data. 1998 Raptor Research Foundation Annual Meeting. Sept. 30-Oct. 4, Ogden, Utah.
- (1998) **W.R. Gould\*** and J.D. Nichols. Estimation of temporal variance of survival in animal populations. 11<sup>th</sup> Annual Biology Symposium, New Mexico State University, Jan. 31.
- (1998) S.A. Lewis and **W.R. Gould\***. A power analysis for detecting trends in raptor migration count data. 31<sup>st</sup> Joint Meeting of Arizona and New Mexico Wildlife Society and American Fisheries Society, Feb. 5-7, Sierra Vista, AZ.
- (1998) S.A. Lewis and **W.R. Gould\***. A power analysis for detecting trends in raptor migration count data. 11<sup>th</sup> Annual Biology Symposium, New Mexico State University, Jan. 31.
- (1998) Hollenbeck, V.G.\* , N. Zucker, **W.R. Gould** and S.C. Weeks. Estimating outcrossing success in the androdioecious clam shrimp *Eluimnadia texana* under various environmental conditions. Southwestern Association of Naturalists 45<sup>th</sup> Annual Meeting, Albuquerque, NM April 9-11.
- (1998) Sipos, M.\* , M. Andersen, W. Whitford, **W.R. Gould**, and F. Kay. Interactions between *Dipodomys ordii*, *D. Merriami* and four species of perennial grasses. Graduate Research Symposium, NMSU, April 24.
- (1998) Posadas-Leal, Cesar\* , R. Valdez, J. L. Holechek, and **W.R. Gould**. Wildlife associations with rangelands in good and poor conditions in the Chihuahuan Desert. Segundo Congreso Internacional Sobre Manejo y Conservacion de Aves y Mamiferos Cinegeticos del Mundo. Toluca, Mexico, June 24-26.
- (1997) **Gould, W.R.\*** and J.D. Nichols. Estimation of temporal variance of survival in animal populations. 82<sup>nd</sup> meeting of the Ecological Society of America, Albuquerque, August 11-14.

- (1997) Hollenbeck, V.G.\*, N. Zucker and **W.R. Gould**. Estimating outcrossing success in an organism with a mixed-mating system. Southwestern Association of Biologists Annual Meeting, Camp Tontozona, Arizona, October 10-12.
- (1997) Arnold, M.A., C.A. Caldwell\*, and **W.R. Gould**. Total mercury accumulation in the double-crested cormorant from two arid-lands reservoirs in southcentral New Mexico. 30<sup>th</sup> Joint Annual Meeting of the NM/AZ Wildlife Society and American Fisheries Society Chapters, February 6-8.
- (1997) Borunda, Daniel\*, C.A. Caldwell and **W.R. Gould**. Total mercury concentrations in aquatic food web components of Caballo and Elephant Butte Reservoirs (Sierra County, NM). 30<sup>th</sup> Joint Annual Meeting of the NM/AZ Wildlife Society and American Fisheries Society Chapters, February 6-8.
- (1996) Arnold, M.A.\*, C.A. Caldwell and **W.R. Gould**. Total mercury accumulation in the double-crested cormorant from two arid-lands reservoirs in southcentral New Mexico. 17<sup>th</sup> Annual Society for Environmental Toxicology and Chemistry meeting. Washington, D.C., Nov. 18-21.
- (1996) Whitford, W.G.\*, P. Alkon, and **W.R. Gould**. Winter birds in a completely engineered ecosystem. Ecological Society of America. Providence, R.I.
- (1996) Whitford, W.G., P. Alkon\*, and **W.R. Gould**. Winter birds in an engineered agricultural landscape: the Central Rio Grande valley. Southwestern Assoc. of Naturalists, UT Pan American, Texas.
- (1995) **Gould, W.R.\***, J.S. Hatfield, B.A. Hoover, and M.R. Fuller. Power of statistical tests to detect population trends. 8th Annual All College Conference, NMSU.
- (1995) **Gould, W.R.\*** Peregrine Falcon Population Dynamics in West Greenland. Seminar for the Fisheries and Wildlife Department, NMSU, February.
- (1994) **Gould, W.R.\***, and K.H. Pollock. Catch-effort estimation of population parameters under a robust design. Presented at the Annual Mathematical Biology Meetings in Raleigh, NC.
- (1993) Coyle, J.J.\*, J. Bennett, T. Maurer, S.Schwartzback and **W.R. Gould**. Environmental contaminants monitoring at units of the Klamath Basin National Wildlife Refuge Complex: a pilot study. 14<sup>th</sup> Annual Society for Environmental Toxicology and Chemistry meeting. Houston, TX, Nov. 15-19.
- (1992) Seegar, W.S.\*, **W.R. Gould\***, M.R. Fuller, W.G. Mattox, M.A. Yates, T.L. Maechtle, J. Oar, and M. Robertson. Peregrine Population Dynamics in West-Central Greenland. Annual Meeting of Raptor Research Foundation, November 11-15, Bellevue, WA.

*Seminars presented*

- (1999) 'What is a biometrician and what do they do?' presented to students of the NMSU Molecular Biology Program, March 1, NMSU.
- (1997) Progress Report of Research Work Orders (23-25) to Coordinating Committee Meeting, New Mexico Cooperative Fish and Wildlife Research Unit, February 20.

(1995) Peregrine falcon population dynamics in West Greenland. Fisheries and Wildlife Department, NMSU, February.

(1994) Educational expedition slides of Australia/New Zealand Statistics Department, October.

*Presentations to Professional Organizations*

(1999) W.S. Seegar, M.A. Yates, T.L. Maechtle, L.S. Schueck, **W.R. Gould** and M.R. Fuller. Trends in counts of migrating peregrine falcons at Assateague Island, MD-VA and Padre Island, TX. United States Geological Survey, Biological Resources Division Monitoring Review Meeting. May 18-20, Tucson, AZ

(1999) K. Bates, S.A. Lewis, **W.R. Gould**, M.R. Fuller and S. Droege. Can counts of migrating raptors be used for monitoring? United States Geological Survey, Biological Resources Division Monitoring Review Meeting. May 18-20, Tucson, AZ

(1999) **W.R. Gould\*** and S.A. Lewis. Survey methodological effects on power to detect trends in raptor migration count data. EMBRAPA/Pantanal, Ministerio da Agricultura e do Abastecimento, Corumba, Brazil.

**External Funding**

(1999) Faculty Development Funding received to attend an international conference on mercury as a global pollutant. \$700

(1998) Spatial Dynamics, Conflict Evaluation and Demographics for Elk that Winter Near San Antonio Mountain, New Mexico. \$511,656. I am a collaborator with the Principal Investigator, Dr. Bruce Thompson, NM Coop. Fish & Wildlife Research Unit.

(1998) Faculty Development Funding received to attend a Wildlife Population Assessment Workshop in St. Andrews, Scotland, \$1500.

(1998) Faculty Development Funding received to attend the 1999 Wildlife Society Meeting in Austin, TX, for which I had organized a symposium on Biometrics Education. \$600.

(My proposal was not accepted, and thus the money was returned)

(1997) Research Minigrant from the College of Business Administration and Economics entitled "An analysis and evaluation of migrant hawk counts in North America". \$1200.

(1995) Sole investigator of grant entitled "Estimation of the temporal variability of survival in animal populations". National Biological Service: \$21,483.

(1995) Sole investigator of grant entitled "Project designs and analyses to provide wildlife and habitat information for military natural resource managers". National Biological Service: \$10,082.

(1995) Principal investigator of grant entitled "An analysis and evaluation of migrant hawk counts in North America". National Biological Service: \$22,500.

(1995) Served on BEST (Biomonitoring of Environmental Status and Trends) Panel Review Committee of proposed 1995 Problem Identification Pilot Projects and acted as reviewer of BEST's Contaminants Problem Identification Manual Funds received: \$2500.

(1994) Cooperator on a Patuxent Environmental Science Center study entitled "Linking population viability models to management strategies" The specific study plan is entitled "Assumptions and caveats underlying population viability analysis. U.S. Department of the Interior. \$171,500. Subsequent approval lead to my own research component (see Research Work Order #23 above).

### **Grants submitted**

(1998) Collaborator on 'Diversifying Coevolution and Speciation in Crossbills', submitted to National Science Foundation (Evolutionary Biology subcommittee), Dr. Craig Benkman is Principle Investigator, Biology Department. \$470,000.

(1996) Co-principal investigator of project entitled "Effects of low-flying aircraft on the reproductive biology of peregrine falcons in Greenland". Submitted to the U.S. Army.

## **Consulting Activities within New Mexico State University through my appointment in the University Statistics Center**

- (1999) Consulted with 33 clients for a total of 240 hours as of July 31st. See Appendix V for more detailed listing of clients and hours on each project.
- (1998) Consulted with 32 clients for a total of 490 hours. See Appendix V for more detailed listing of clients and hours on each project.
- (1997) Consulted with 34 clients at the university for a total of 450 hours. See Appendix V for more detailed listing of clients and hours on each project.
- (1996) Consulted with 26 clients at the university for a total of more than 300 hours.
- (1995) Consulted with 27 clients at the university for a total of 401 hours.
- (1994) Consulted with 4 clients during the 3-month period of my employment.

## **Fieldwork participation with NMSU students and faculty through my role as a consultant in the University Statistics Center**

I have been an observer and active participant in the fieldwork of the following students and faculty for whom I serve as a committee member or have acted in a consulting capacity.

Allison Arnold, WLSC Masters student (Collected cormorant chicks for mercury analysis at Elephant Butte and Caballo Reservoirs)

Carol Evans, WLCS Masters student (Trapped scaled quail outfitted with radio transmitters at Jornada Experimental Range)

Robert Konkel, WLSC masters student (Collected reptiles and amphibians along arrays and in pitfall traps, Artesia, NM)

Mike Livingston, WLSC masters student (Conducted line transect sampling of birds and insect sweeps, Artesia, NM.)

Chris Canovan, IDOC program (Sampled water and sediment from Caballo Reservoir for mercury analysis)

Dr. Bruce Thompson, NM Coop. Res. Unit (White Sands Missile Range site visit to establish sampling protocol, conducted utility line surveys for bird strikes)

John Puschock, WLSC masters student (White Sands Missile Range mist netting of passerines)

Beth Bardwell, BIOL masters student (Observed feeding trials of pinyon nuts and acorns to scrub jays)

Vicky Hollenbeck, BIOL masters student (Observed laboratory experiment on clam shrimp productivity)

Jamus Joseph, RGSC Ph.D. student (Visited study sites on Jornada Experimental Range where line transect surveys of birds and mammals were conducted)

Keeley Bihl, BIOL masters student (Visited study sites in San Mateo Mountains where he is studying tannin levels of acorns in hybrid communities).

Sam Smallidge, RGSC doctoral student (Observed capture and initial radio collaring of Elk population at San Antonio Mountain, NM. Flew a mark-resight survey for the purpose of estimating population size).

Carol Finley, WLSC masters student. (Participated in the capture and banding of burrowing owls on campus).

Esther Nelson, WLSC masters student (Observed lizard surveys along transects in areas of various levels of development).

## **IV. Service**

### **A. Service to the Department, College and University**

#### *Departmental*

(1999-1998) Distributed the University Statistics Center poster in various offices at the Graduate School.

(1999) Helped arrange for Econ-Estat seminar speaker, Jon Clarke, from U.S. Census Bureau.

(1999-1996) Reviewed graduate student applications for the ESTAT masters program.

(1998) Modified the description of the University Statistics Center in the Graduate Student Handbook published by the Graduate School.

(1998-1997) Contributed to revision of the curriculum for ESTAT 505 and 506. Contributed to revision of the curriculum for EST 251.

(1997) Assisted Dr. Marta Remmenga with arranging for the software and hardware needs of graduate students in ESTAT

(1996-1995) Member of the ESTAT departmental teaching committee. My main contribution was aiding in the development of a new student evaluation form, which was used until the move to the Business College.

(1996-1995) Member of the ESTAT computing committee.

(1996-1995) Chair of the ESTAT communications committee. I developed a poster advertising the ESTAT masters program that was distributed to over 400 departments throughout North America.

Departmental representative at the 103<sup>rd</sup> and 104<sup>th</sup> commencement of NMSU, (Dec., 1997 and May 1998)

(1995-1999) Solicited and posted job opportunities for master's students from our program.

(1995-1999) I have written letters of recommendation for several graduate students from our program (Feliz Ozaydin, Xiuhai Yang, Shylaja Adimoolam), other graduate programs (Vicky Hollenbeck, BIOL) and undergraduates (Myong O'Donnell).

#### *Recruiting Activities*

I have been actively involved in enhancing our recruiting activities throughout my employment at NMSU. In 1995, I developed a poster advertising our statistics department which was distributed to over 400 colleges and universities in North America. Originally, I cooperated with Agricultural Communications and University Communications in gathering information, producing photographs, and in printing the poster. Upon moving to the Business College, I modified the poster, obtained bids for its production, placed the order and directed the mailing of the posters.

In the spring of 1996, I arranged for visiting prospective students speak with our current students over lunch to recruit new students with a more 'personal' touch. I gathered housing, utility, etc., materials for submission to newly accepted students to our master's program. Shortly after our move to the Business College, I revised the cover letter sent to prospective students from the department head. In 1997, I lead a tour of the college facilities available to incoming ESTAT graduate students as part of our first graduate student orientation. Later that year (Aug. 12), I met with the NMSU Admission's Office Staff to discuss recruitment issues. In 1998, I gave departmental tours to Michael Smith of Tucson, Arizona, and Jason Brown (Arizona State Univ.), introduced them to our faculty members and supplied them with the necessary information for applying to our master's program.

### *College*

(1999-1998) Member of the Committee to Promote Research, previously named the Research Excellence Committee, 1998-1997.

(1998) Arranged for Las Cruces Sun News newspaper article describing the contribution of the University Statistics Center to NMSU and the community. Initiated contact with Dan Trujillo, news writer for university communications and summarized consulting activities and contributions of members of the University Statistics Center.

(1997) SWOT participant for the College of Business, November 19.

(1996) Served on scholarship award committee for ECON 490-1, ECON 550 trip to Costa Rica.

(1996-1995) College of Agriculture and Home Economics Homecoming Games Participant.

(1995) Research Review Committee Member for proposed research of Dr. Mark Andersen (WLSC)

(1995) Research Review Committee Member for proposed research of Dr. Raul Valdez (WLSC)

(1995) Research Review Committee Member for proposed research of Dr. Jerry Holechek (RGSC)

### *University*

(1999) Member of the University Research Council

(1999-1996) Served as judge for the Southwestern Science and Engineering Fair

(1999-1997) Organizer of Annual 'Feed Las Cruces' Food Drive in which student organizations from campus collect canned goods door-to-door for the Casa de Peregrinos Food Bank. I arranged for donations from Coca-Cola, Pizza Pros, and the Cruces Trophy and Award Center for the event. Over 3500 canned and dry goods have been collected over the past two years for Casa de Peregrinos. As part of my involvement, I have given presentations to student organizations, e.g., Aggieland Civitan (student service fraternity) in which I described the function of Casa de Peregrinos and awarded prizes for participation in the 'Feed Las Cruces' Food Drive.

B. Statistical consulting services (unpaid) external to the university considered as service to the profession

(1999) Provided statistical advice and references regarding mark-resight methodology to Leigh Ann Harrod, working for New Mexico State Fish and Game Department

(1998-1997) Provided statistical advice to Dr. Robert Rosenfield, University of Wisconsin-Stevens Point, regarding multiple hypothesis testing and experimental-wise error. Provided advice on his use of a hypothesis test and computing power for such a test. (Acknowledged in his publications)

(1998) Provided advice, relevant references, etc., to Cees Bevers, Department of Conservation, Dunedin, New Zealand regarding trend analysis of bird counts

(1998) Described a variance components estimation procedure to Dr. Brett Sandercock, Dept. of Environmental Science, Univ. of California, Berkeley.

(1997) Consultation with Stuart Brittain of the Montana Department of Fish, Wildlife and Parks regarding population estimation of fish populations using capture-recapture techniques.

(1997) Provided sampling advice regarding hawk migration counts for a new site to be conducted by Kirk Bates, Snake River Field Station, USGS.

(1997) Provided statistical advice regarding survival estimation of golden eagle to Grainger Hunt, Predatory Bird Research Group, UC Santa Cruz, CA.

(1996) Provided statistical advice to Dr. Bill Burnham, The Peregrine Fund, Boise, ID.

(1996) Consulted with Joel Lusk of the U.S. Fish and Wildlife Service regarding toxicity testing in the San Juan River, New Mexico (April 3).

(1995) Advised the BEST (Biomonitoring of Environmental Status and Trends) Program about sampling regimes for monitoring status and trends of environmental contaminants on U.S. Fish and Wildlife Service Lands (Feb 21-24).

(1995) Assisted the Idaho State Fish and Wildlife Department capture white sturgeon for marking and radio-tagging (March 22-24).

C. Professional Service

(1999) Reviewer for *Journal of Wildlife Management*

(1999) Session Chair at 32<sup>nd</sup> Joint Meeting of Arizona and New Mexico Wildlife Society and American Fisheries Society, Feb. 4-6, Gallup, NM.

(1999) Organizer of the 1999 Wildlife Society/American Fisheries Society Photo Contest at the 32<sup>nd</sup> Joint Annual Meeting, Gallup, NM

- (1998) Reviewer for *Ecology, Canadian Journal of Fisheries and Aquatic Sciences*
- (1998) Reviewed Biomonitoring of Environmental Status and Trends (BEST) Program Pilot Project Final Report of Klamath Basin National Wildlife Refuge Biomonitoring Techniques Field Evaluation
- (1998) Internally reviewed paper by Rick Adkisson and Tony Popp entitled Changes in federal funding and horizontal equity in state social welfare expenditures.
  
- (1998) Moderator for Population Dynamics Session at 1998 Raptor Research Foundation Meetings in Ogden, Utah, October 2.
  
- (1997) Reviewed paper for proceedings of the National Quail Symposium
  
- (1997) Served as judge for Best Student Paper Awards at the American Fisheries Society Joint NM/AZ Chapter Meetings, February, Gallup, NM.
  
- (1996) Edited 'Report of a Workshop to Develop a North American Raptor Monitoring Strategy', National Biological Service report.
  
- (1996) Reviewed the National Biological Service's BEST Contaminant Problem Identification Manual
  
- (1996) Judge of student presentations at the Western Regional Wildlife Conclave, Las Cruces, NM
  
- (1996) Wrote a letter of recommendation supporting the nomination of Dr. Kenneth H. Pollock as a Fellow of the American Statistical Association.
  
- (1996) Reviewer for *Journal of Environmental and Ecological Statistics*.
- (1995) Reviewer for *Ecology, Wildlife Society Bulletin*
  
- (1995) Advised the BEST Program about sampling regimes for monitoring status and trends of environmental contaminants on U.S. Fish and Wildlife Service lands, Feb 21-24.

#### D. Honors and Awards

- (1999) Second place with Fisheries and Wildlife Graduate Student Organization in Fiestas Latinos Softball Tournament at NMSU.
  
- (1998) Outstanding Performance in Scholarly Research in the College of Business, NMSU
  
- (1998-1997) Nominated for secretary of Biometrics Working Group within the Wildlife Society
  
- (1997) Membership in Gamma Sigma Delta, the Honor Society of Agriculture

## **V. Other Information**

### **A. Self Development/Improvement Activities**

- (1999-1994) Attended seminars in Animal Science, Economics, Biology, and Fisheries and Wildlife Departments.
- (1998) Attended workshop on Wildlife Population Assessment at St. Andrews University in Scotland, August 10-14<sup>th</sup>.
- (1998) Attended the Aplomado Falcon Working Group Meeting, NMSU, October 21
- (1997) Participant in Peer Coaching Program for Teaching
- (1997) Attended an ecology course (BIOL 550) entitled "Fundamentals of Ecology"
- (1997) Attended the 7<sup>th</sup> Annual Friends of the Jornada Symposium
- (1997) Attended the 4<sup>th</sup> Annual Wildlife Society Conference, Sept. 23-28. Snowmass, CO
- (1996) Attended Joint Raptor Research/ American Ornithologists Union Meeting, August 14-17 Boise, ID
- (1995) Attended invited paper session on improving the effectiveness of statisticians at the Joint Statistical Meetings in Orlando.
- (1995) Attended workshop on SAS/INSIGHT at Joint ASA/Biometrics Conference, Aug. 13-17.
- (1995) Attended grant writing workshop given by David Bauer, January.

### *International Experiences*

- (1999) Attended international conference on mercury as a global pollutant and gave research seminar to an agricultural station in Brazil.
- (1997) Attended 8<sup>th</sup> U.S./Mexico Border States Conference on Recreation, Wildlife and Parks, Hermosillo, Sonora, Mexico, February 26-March 1, 1997
- (1994) Forest Management and Protection in Costa Rica, a field course.
- (1993) Member of the 1993 Greenland Peregrine Falcon Survey

Student evaluations are summarized below. Original summaries and hand written comments are available upon request. Note that the evaluation form used changed until the Fall, 1996, so that all questions were not asked of every class. Frequencies of responses are given in each category.

Question:

Rate the teacher's apparent familiarity with the subject.

Very Extensive	Extensive	Satisfactory	Limited	Extremely Limited	Course/Semester
27	4	0	0	0	311/F99
7	1	0	0	0	521/F99
3	1	0	0	0	551/F99
42	7	0	0	0	311/Sp99
6	2	0	0	0	523/Sp99
4	3	0	0	0	521/F98
1	3	0	0	0	551/F98
29	16	4	1	0	311/Sp98
2	3	0	0	0	523/Sp98
2	3	0	0	0	553/Sp98
4	1	0	0	0	521/F97
2	1	0	0	0	551/F97
11	2	1	0	0	251/Sp97
3	3	0	0	0	523/Sp97
22	5	1	0	0	251/F96

Rate the teacher's ability to convey his/her knowledge about the subject.

Very High	More than Satisfactory	Satisfactory	Less than Satisfactory	Very Low	Course/Semester
16	13	2	0	0	311/F99
7	1	0	0	0	521/F99
2	2	0	0	0	551/F99
32	13	4	0	0	311/Sp99
3	3	2	0	0	523/Sp99
4	2	1	0	0	521/F98
3	1	0	0	0	551/F98
18	19	9	3	1	311/Sp98
0	2	3	0	0	523/Sp98
1	4	0	0	0	553/Sp98
3	2	0	0	0	521/F97
2	1	0	0	0	551/F97
8	6	0	0	0	251/Sp97
2	2	2	0	0	523/Sp97
14	11	3	0	0	251/F96

Did the teacher stimulate interest in the subject?

Very High Interest	High Interest	Satisfactory	Some Interest	Very Little Interest	Course/Semester
14	7	6	2	2	311/F99
6	2	0	0	0	521/F99
2	2	0	0	0	551/F99
14	20	13	1	1	311/Sp99
3	3	2	0	0	523/Sp99
4	2	1	0	0	521/F98
3	1	0	0	0	551/F98
12	19	9	5	5	311/Sp98
0	4	1	0	0	523/Sp98
2	3	0	0	0	553/Sp98
1	4	0	0	0	521/F97
3	0	0	0	0	551/F97
3	6	4	1	0	251/Sp97
2	1	2	0	1	523/Sp97
8	9	10	1	0	251/F96
0	5	2	0	0	521/F96
3	3	1	0	0	523/Sp96
2	1	0	0	0	550/Sp96
5	17	10	2	0	251/F95
4	3	0	0	0	521/F95
2	5	3	0	0	251/Sp95

Rate the teacher's apparent enthusiasm toward the subject.

Very Enthusiastic	Somewhat Enthusiastic	Satisfactory	Less than Enthusiastic	Bored	Course/Semester
23	7	1	0	0	311/F99
8	0	0	0	0	521/F99
3	0	1	0	0	551/F99
38	10	1	0	0	311/Sp99
6	1	1	0	0	523/Sp99
7	0	0	0	0	521/F98
4	0	0	0	0	551/F98
28	13	5	3	1	311/Sp98
4	1	0	0	0	523/Sp98
4	1	0	0	0	553/Sp98
2	3	0	0	0	521/F97
3	0	0	0	0	551/F97
10	4	0	0	0	251/Sp97
5	0	1	0	0	523/Sp97
16	8	4	0	0	251/F96

Rate the teachers rapport with or attitude toward students.

Very Helpful	Helpful	Satisfactory	Not very Helpful	Doesn't Care	Course/Semester
23	6	2	0	0	311/F99
8	0	0	0	0	521/F99
2	2	0	0	0	551/F99
38	10	1	0	0	311/Sp99
7	1	0	0	0	523/Sp99
6	0	1	0	0	521/F98
3	1	0	0	0	551/F98
24	14	7	4	1	311/Sp98
2	2	1	0	0	523/Sp98
4	1	0	0	0	553/Sp98
4	1	0	0	0	521/F97
3	0	0	0	0	551/F97
8	4	1	0	1	251/Sp97
4	1	1	0	0	523/Sp97
20	6	1	1	0	251/F96
1	4	2	0	0	521/F96
6	1	0	0	0	523/Sp96
2	1	0	0	0	550/Sp96
18	9	6	1	0	251/F95
6	0	1	0	0	521/F95
7	2	1	0	0	251/Sp95

Rate the teacher's fairness in grading.

Extremely Fair	Fairer than Most	Satisfactory	Questionable	Biased	Course/Semester
18	6	7	0	0	311/F99
6	0	2	0	0	521/F99
2	1	0	0	0	551/F99
29	13	5	2	0	311/Sp99
3	3	2	0	0	523/Sp99
5	2	0	0	0	521/F98
2	1	0	0	0	551/F98
21	15	7	6	0	311/Sp98
1	1	3	0	0	523/Sp98
4	1	0	0	0	553/Sp98
3	1	0	1	0	521/F97
2	0	1	0	0	551/F97
5	4	4	1	0	251/Sp97
4	1	1	0	0	523/Sp97
12	9	5	2	0	251/F96

Rate the organization of the course.

Very Well Organized	Well Organized	Satisfactory	Less than Satisfactory	Poorly Organized	Course/Semester
16	9	4	2	0	311/F99
4	4	0	0	0	521/F99
2	1	1	0	0	551/F99
27	20	2	0	0	311/Sp99
2	3	2	1	0	523/Sp99
3	2	2	0	0	521/F98
0	4	0	0	0	551/F98
19	21	7	3	0	311/Sp98
2	2	1	0	0	523/Sp98
2	0	0	0	0	553/Sp98
5	0	0	0	0	521/F97
3	0	0	0	0	551/F97
10	4	0	0	0	251/Sp97
2	1	3	0	0	523/Sp97
15	10	3	0	0	251/F96
2	3	2	0	0	521/F96
2	5	0	0	0	523/Sp96
2	1	0	0	0	550/Sp96
16	13	5	0	0	251/F95
4	3	0	0	0	521/F95
5	4	1	0	0	251/Sp95

Overall, rate the quality of teaching in this course.

Outstanding	Very Good	Good	Satisfactory	Poor	Very Poor	Definitely Inferior	Course/Semester
14	9	5	2	0	0	0	311/F99
6	2	0	0	0	0	0	521/F99
2	2	0	0	0	0	0	551/F99
21	25	2	0	0	0	0	311/Sp99
1	4	1	0	0	0	0	523/Sp99
4	2	1	0	0	0	0	521/F98
1	3	0	0	0	0	0	551/F98
12	20	9	3	2	1	0	311/Sp98
0	3	0	2	0	0	0	523/Sp98
1	4	0	0	0	0	0	553/Sp98
1	3	0	0	0	0	0	521/F97
3	0	0	0	0	0	0	551/F97
2	8	1	1	0	0	0	251/Sp97
2	2	2	0	0	0	0	523/Sp97
8	18	2	0	0	0	0	251/F96

## Graduate Student Committees

Student	Advisor	Department	Role	Dates	Defense
Armendariz-Silva, Loretta	Stephen Farmer	Special Educ.	Dean's Rep (DR)	1994	1994
Cardenas, Elsa	Don Sullivan	ENVIRO SCI	DR	1996	1996
Nicholopoulos, Joy	Bill Boecklin	BIOL (Ph.D)	DR	1996	1996
Bagour, Ali	Robert Steiner	ESTAT	Member	1997	1997
Weber, Ed	Dick Cole	WLSC	Member/DR	1997	1997
Bassford, Julie	Robert Steiner	ESTAT	Member	1998	None
Logarso, Guillermo	David Richman	EPPWS	Member/DR	1998	1998
Herzog, Mark	Dick Cole	WLSC	Member/DR	1994-1995	1995
Evans, Carol	Sandy Schemnitz	WLSC	Member/DR	1994-1997	1997
Arnold, Allison	Colleen Caldwell	WLSC	Member	1995-1996	1996
Diaz, Militza	Bruce Thompson	WLSC	Member/DR	1995-1996	1996
Livingston, Mike	Sandy Schemnitz	WLSC	DR	1995-1996	1996
Young, Kendal	Raul Valdez	WLSC	Member	1995-1996	1996
Joseph, Jamus	Jerry Holechek	RGSC (Ph.D)	Member/DR	1996-1999	
Borunda, Daniel	Colleen Caldwell	WLSC	Member	1996-1997	1997
Bowerman, John	Dick Cole	WLSC	Member/DR	1996-1997	1997
Jojola, Susan	Raul Valdez	WLSC	Member/DR	1996-1997	1997
Lewis, Sandra	Bill Gould	ESTAT	Chair	1996-1997	1997
Posadas, Cesar	Raul Valdez	WLSC	Member/DR	1996-1997	1997
Brubaker, Don	Bruce Thompson	WLSC	Member	1996-1998	1998
Brubaker, Kathleen	Bruce Thompson	WLSC	Member/DR	1996-1998	1998
Puschock, John	Mark Andersen	WLSC	Member	1996-1998	1998
Rubin, David	Bruce Thompson	WLSC	Member/DR	1996-1999	1999
Bardwell, Beth	Craig Benkman	BIOL	Member	1997-1999	
Hollenbeck, Vicky	Naida Zucker	BIOL	Member/DR	1997-1998	1998
Sipos, Michael	Mark Andersen	WLSC	Member/DR	1997-1998	1998
Uranga, Ramiro	Raul Valdez	WLSC	Member	1997-1998	1998
Ahlm, Mike	Bruce Thompson	WLSC	Member	1998-1999	
Bihl, Keeley	Bill Boecklin	BIOL	Member	1998-1999	
Stubben, Chris	Brook Milligan	BIOL (Ph.D)	Member	1998-1999	
Gallagher, Kelly	Brook Milligan	BIOL (Ph.D)	Member	1998-1999	
Kuehne, Wendy	Colleen Caldwell	WLSC	Member	1998-1999	
Lorton, Rachelle	Bruce Thompson	WLSC	Member	1998-1999	
Roy, Graham	Laura Huenneke	BIOL (Ph.D)	Member	1998-1999	
Smallidge, Sam	Karl Wood	RGSC (Ph.D)	Member	1998-1999	
Molinar, Francisco	Jerry Holechek	RGSC (Ph.D)	Member	1998-1999	1999
Yang, Xiuhai	Marta Remmenga	ESTAT	Member	1998-1999	1999
Martinez, Alejandro	Raul Valdez	WLSC	Member	1999	
Nelson, Esther	Mark Andersen	WLSC	Member	1999	
Podolsky, Jill	Colleen Caldwell	WLSC	Member	1999	
Rivieccio, Marina	Bruce Thompson	WLSC	Member	1999	
Romero, John	Joe Ellington	EPPWS	Member	1999	
Zeisset, Michelle	Bill Gould	ESTAT	Chair	1999	

## Appendix IV

## Table of Contents

1. Gould, W.R., L.A. Stefanski, and K.H. Pollock. 1999. Use of simulation-extrapolation estimation in catch-effort analyses. *Canadian Journal of Fisheries and Aquatic Sciences* 56: 1234-1240.
2. Caldwell, C.A., M.A. Arnold and W.R. Gould. 1999. Mercury distribution in blood, tissues, and feathers of double-crested cormorant (*Phalacrocorax auritus*) nestlings from arid-lands reservoirs in southcentral New Mexico. *Archives of Environmental Contamination and Toxicology* 36:456-461.
3. Gould, W.R. and J.D. Nichols. 1998. The estimation of temporal variability of survival in animal populations. *Ecology* 79: 2531-2538.
4. Young, K.E., R. Valdez, P.J. Zwank and W.R. Gould. 1998. Density and roost site characteristics of spotted owls in the Sierra Madre Occidental, Chihuahua, Mexico. *Condor* 100: 732-736.
5. Gould, W.R. and K.H. Pollock. 1997. Catch-effort estimation of population parameters under the robust design. *Biometrics* 53: 207-216.
6. Gould, W.R. and K.H. Pollock. 1997. Catch-effort maximum likelihood estimation of important population parameters. *Canadian Journal of Fisheries and Aquatic Sciences* 54:890-897.
7. Gould, W.R., L.A. Stefanski, and K.H. Pollock. 1997. The effects of measurement error on catch-effort estimation. *Canadian Journal of Fisheries and Aquatic Sciences* 54:898-906.
8. Hatfield, J.H., W.R. Gould, B.A. Hoover, M.R. Fuller, E.L. Lindquist. 1996. Detecting trends in raptor counts: power and type I error rates of various statistical tests. *Wildlife Society Bulletin* 24:505-515
9. Gould, W.R. and M.R. Fuller. 1995. Survival and population size estimation in raptor studies: a comparison of two methods. *Journal of Raptor Research* 29(4):256-264.

Copies of technical reports (which are lengthy) and manuscripts currently in review are available upon request.

### Supplement to Bill Gould's Annual Performance

A listing of consulting clients is given for each year below. Extent of consultations vary and include 30-minute telephone conversations or several hours of computational work. For some projects I am intimately involved throughout by making contributions in problem formulation, experimental design or sampling design construction, data collection (fieldwork), analysis, interpretation and writing of the report or thesis.

**1999**

<b>Client</b>	<b>Dept</b>	<b>Advisor</b>
Ahlm, Mike	Wildlife Science	Bruce Thompson
Alkon, Phil	Wildlife Science	Phil Alkon
Alexander, Anthony	Biology	Peter Herman
Bak, Jason	Wildlife Science	Bruce Thompson
Bardwell, Beth	Biology	Craig Benkman
Bihr, Keeley	Biology	Bill Boecklin
Blood, Courtney	Wildlife Science	Pat Arrowood
Brubaker, Don	Wildlife Science	Bruce Thompson
Brubaker, Kathleen	Wildlife Science	Bruce Thompson
Fuller, Adam	Fisheries Science	Paul Turner
Gallagher, Kelly	Biology	Brook Milligan
Gallagher, Kelly	Biology	Laura Huenneke
Gutierrez-Luna, Ramon	Range Science	Beck, Reldon
Hodgson, Quinn	Range Science	Jerry Holechek
Hollenbeck, Vicky	Biology	Naida Zucker
Jospeh, Jamus	Range Science	Jerry Holechek
Krogh, Sonya	Geography	Jack Wright
Kroll, A.J.	Wildlife Science	Mark Andersen
Kuhne, Wendy	Fisheries Science	Colleen Caldwell
Lorton, Rachelle	Wildlife Science	Bruce Thompson
Martinez, Alejandro	Wildlife Science	Raul Valdez
Michaud, Gordon	Agronomy and Hort	Curtis Monger
Molinar, Francisco	Range Science	Jerry Holechek
Nelson, Esther	Wildlife Science	Mark Andersen
Podalsky, Jill	Fisheries Science	Colleen Caldwell
Puschock, John	Wildlife Science	Mark Andersen
Rivieccia, Marina	Wildlife Science	Bruce Thompson
Romero, John Chris	Entomology	David Richmond
Roy, Graham	Biology	Laura Huenneke
Rubin, David	Wildlife Science	Bruce Thompson
Sipos, Michael	Wildlife Science	Mark Andersen
Smallidge, Sam	Range Science	Karl Wood
South, Susan	Psychology	Linda Porzelius
Surface, Laura	Geography	Jack Wright
Thompson, Bruce	Wildlife Science	Elk Project
Young, Kendal	Wildlife Science	Raul Valdez

**1998**

<b>Client</b>	<b>Dept</b>	<b>Advisor</b>
Ahlm, Mike	Wildlife Science	Bruce Thompson
Andersen, Mark	Wildlife Science	N/A
Bardwell, Beth	Biology	Craig Benkman
Bean, Danton	Civil Engineering	Clinton Woodward
Benkman, Craig	Biology	N/A
Bihl, Keeley	Biology	Bill Boecklin
Brubaker, Don	Wildlife Science	Bruce Thompson
Brubaker, Kathleen	Wildlife Science	Bruce Thompson
Caldwell, Colleen	Fisheries Science	N/A
Gallagher, Kelly	Biology	Brook Milligan
Hodgson, Quinn	Range Science	Jerry Holechek
Hollenbeck, Vicky	Biology	Naida Zucker
Jospeh, Jamus	Range Science	Jerry Holechek
Kuhne, Wendy	Fisheries Science	Colleen Caldwell
Logarso, Guillermo	Entomology	David Richmond
Lorton, Rachlle	Wildlife Science	Bruce Thompson
Maechtle, Tom & Yates, Mike	RWO#24	Peregrine counts
Meyer, Ray & Angel Montoya	Wildlife Science	N/A
Molinar, Francisco	Range Science	Jerry Holechek
Nelson, Esther	Wildlife Science	Mark Andersen
Puschock, John	Wildlife Science	Mark Andersen
Rosenfield, Robert	U of WI, Steven's Point	N/A
Roy, Graham	Biology	Laura Huenneke
Sipos, Michael	Wildlife Science	Mark Andersen
Smallidge, Sam	Range Science	Karl Wood
South, Susan	Psychology	Linda Porzelius (Pacific Univ.)
Thompson, Bruce	Wildlife Science	WSMR Project
Thompson, Bruce	Wildlife Science	Elk Project
Uranga, Ramiro	Wildlife Science	Raul Valdez
Wright, Byron	Wildlife Science	John Boren
Yang, Zhilin	Marketing	Robin Peterson
Young, Kendal	Wildlife Science	Raul Valdez

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<b>Client</b>	<b>Dept</b>	<b>Advisor</b>
Adkinson, Rick	Economics	N/A
Alkon, Phil	Jornada	Res. Sci
Bardwell, Beth	Biology	Craig Benkman
Blevins, Ron	Education	?
Borunda, Danny	Fisheries Science	Colleen Caldwell
Bowerman, John	Fisheries Science	Dick Cole
Brubaker, Don	Wildlife Science	Bruce Thompson
Brubaker, Kathleen	Wildlife Science	Bruce Thompson
Caldwell, Colleen	Fisheries Science	N/A
Evans, Carol	Wildlife Science	Sandy Schemnitz
Jojola, Susan	Wildlife Science	Raul Valdez
Jospeh, Jamus	Range Science	Jerry Holechek
Kulshreshtha, Sanjeev	Weed Science	Tracy Stirling
Logarso, Guillermo	Entomology	David Richmond
Maechtle, Tom & Yates, Mike	RWO#24	Peregrine counts
Malmberg, Jeanne	Psychology	?
Miller, Heather	Biology	Laura Huenneke
North, Barbara	Wildlife Science	Res. Sci
Posadas, Cesar	Range Science	Raul Valdez
Puschock, John	Wildlife Science	Mark Andersen
Rubin, David	Wildlife Science	Bruce Thompson
Simpson, Vicky	Biology	Naida Zucker
Sipos, Michael	Wildlife Science	Mark Andersen
Steiner, Robert	Experimental Statistics	N/A
Thompson, Bruce	Wildlife Science	WSMR Project
Thompson, Bruce	Wildlife Science	Elk Project
Uranga, Ramiro	Wildlife Science	Raul Valdez
Weber, Ed	Fisheries Science	Dick Cole
Whitford, Walt	Jornada Exp. Range	N/A
Wiening, Cliff	Entomology	?
Wright, Byron	Wildlife Science	John Boren
Young, Kendal	Wildlife Science	Raul Valdez
Zwank, Phil	Wildlife Science	Bosque project
Zwank, Phil	Wildlife Science	Elk Project

**1996**

<b>Client</b>	<b>Dept</b>	<b>Advisor</b>
Al-Jamal, Mumammed	Agronomy	Ted Sammis
Alkon, Phil	Jornada Exp. Range	Visiting Scientist
Whitford, Walt	Jornada Exp. Range	(USDA)
Arnold, Allison	Fisheries Science	Colleen Caldwell
Ash, Steve	Management	Joe Benson
Borunda, Danny	Fisheries Science	Colleen Caldwell
Bowerman, John	Fisheries Science	Dick Cole
Breiter, Deborah	Hospitality & Tourism	(Faculty)
Brubaker, Don	Wildlife Science	Bruce Thompson
Brubaker, Kathleen	Wildlife Science	Bruce Thompson
Canovan, Chris	Interdisciplinary Doctorate	Colleen Caldwell
Diaz, Militza	Wildlife Science	Bruce Thompson
Jojola, Susan	Wildlife Science	Raul Valdez
Joseph, Jamus	Range Science	Jerry Holechek
Lusk, Joel	USFWS	N/A
Meyer, Ray	Wildlife Science	Fort Bliss project
Nicholopoulos, Joy	Biology	Bill Boecklin
Posadas, Cesar	Range Science	Jerry Holechek
Puschock, John	Wildlife Science	Mark Andersen
Rubin, David	Wildlife Science	Bruce Thompson
Shrestha, Pratima	Wildlife Science	Mark Andersen
Soto, Sylvia	Counseling and Educational Psychology	Rod Merta
Thompson, Bruce	Wildlife Science	N/A
Weber, Ed	Fisheries Science	Richard Cole
Xie, Qingbin	Plant Pathology	(Lab technician)
Young, Kendal	Wildlife Science	Raul Valdez

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<b>Client</b>	<b>Dept.</b>	<b>Advisor</b>
Alkon, Phil	Visiting Scientist	N/A
Whitford, Walt	Jornada Exp. Range	N/A
Thompson, Bruce	Wildlife and Fisheries Science	N/A
Andersen, Mark	Wildlife and Fisheries Science	N/A
Cain, Michael	Biology	N/A
Soto, Sylvia	Counseling and Educational Psychology	N/A
Evans, Carol	Wildlife and Fisheries Science	Sandy Schemnitz
Lewis, Sandy	Wildlife and Fisheries Science	V.W. Howard
Young, Kendal	Wildlife and Fisheries Science	Raul Valdez
Livingston, Michael	Wildlife and Fisheries Science	Sandy Schemnitz
Arnold, Allison	Wildlife and Fisheries Science	Colleen Caldwell
Ahmen, Ashraf	Civil Engineering	
Herzog, Mark	Wildlife and Fisheries Science	Richard Cole
Rothlisberger, Eileen	Agriculture Extension Education	Brenda SeEVERS
Gonzalez Rebeles, Carlos	Range Science	Bruce Thompson
Manspeaker, Damian	Chemical Engineering	
Mahrt, Laura	Biology	N/A
Canovan, Chris	Interdisciplinary Doctorate Program	Colleen Caldwell
Elfstrom, Bruce	Biology	Naida Zucker
Knopp, John	Environmental Engineering	
Isaque, Muhammed	Range Science	Reldon Beck
Rubin, David	Wildlife and Fisheries Science	Bruce Thompson
Nicholopolis, Joy	Biology	Bill Boecklin
Puschock, John	Wildlife and Fisheries Science	Mark Andersen
Morris, Rob	Entomology	
Konkel, Rob	Wildlife and Fisheries Science	Sandy Schemnitz
Alkon, Phil	Visiting Scientist	N/A