

**Zachary D. Miller**  
The University of Montana  
Department of Society and Conservation  
Missoula, MT 59801  
(916) 622-0636  
zachary1.miller@umontana.edu

## EDUCATION

- May 2017 (expected) Ph.D., Forestry and Conservation Sciences. The University of Montana. Missoula, MT. Part of the Metcalf Human Dimensions Lab.
- 2014 M.S., Parks, Recreation, and Tourism Management. Concentration area: Parks and Conservation Area Management. Clemson University. Clemson, SC.
- 2012 B.S., Recreation Administration: Natural Resources. Pattern: Environmental Education and Interpretation. California State University, Chico. Chico, CA. Magna cum laude.

## PEER REVIEWED PUBLICATIONS

- Miller, Z.D.**, Fefer, J., Kraja, B., Lash, B., Freimund, W. (IN PROGRESS) Perspectives on visitor use management in the national parks. *George Wright Forum*.
- Miller, Z.D.**, Freimund, W. (IN PROGRESS). Virtual visitors: Social media and the national parks. *Journal of Park and Recreation Administration*.
- Miller, Z.D.**, Freimund, W., Blackford, T. (UNDER REVIEW). Communicating with visitors about bison safety. *Yellowstone Science*.
- Miller, Z.D.**, Freimund, W., Nickerson, N., Metcalf, L., Powell, R.B. (IN PROGRESS). Bear safety in Yellowstone National Park: An empirical model of elaboration's influence on the theory of planned behavior. *Leisure Sciences*.
- Miller, Z.D.**, Freimund, W., Nickerson, N., Metcalf, L., Powell, R.B. (IN PROGRESS). Development and validation of a bear safety elaboration scale. *Environmental Education Research*.
- Miller, Z.D.**, Freimund, W., Nickerson, N., Metcalf, L., Powell, R.B. (IN PROGRESS). Targeting your audience: Wildlife value orientations and the relevance of messages about bear safety. *Leisure Sciences*.
- Miller, Z.D.**, Metcalf, P., Freimund, W. (IN PROGRESS). Human-bison interactions: Social norms and visitor considerations in Yellowstone National Park. *Human Dimensions of Wildlife: An International Journal*.
- Miller, Z.D.**, Jorgenson, J., Nickerson, N. (UNDER REVIEW). Park value-orientation, fee increases, and public lands visitation loyalty. *Journal of Park and Recreation Administration*.
- Miller, Z.D.**; Quigley, C.; Hallo, J.; Dogbey, J.; Che, M. Seno, S. (2016). Investigating wildlife and grazing perspectives of Kenyan university students. *Journal of Nature Conservation*, 32.
- Miller, Z.D.**; Hallo, J.; Sharp, J.; Powell, R.; Lanham, J.D. (2014). Birding by ear: A study of recreational specialization and soundscape preference. *Human Dimensions of Wildlife: An International Journal*, 19(6).
- Quigley, C.; **Miller, Z.D.**; Dogbey, J.; Che, S.M.; Hallo, J. (2014). "No one should destroy the forest." Using photo-based interviews to understand Kenyan teachers' views of the environment. *International Journal of Science Education*. 36(17).

## TECHNICAL REPORTS AND OTHER PUBLICATIONS

- Freimund, W., Dalenberg, D., Mills, C., Weinberg, A., Markegard, S., Warner, T., **Miller, Z.D.** (2014). *Glacier National Park Site History: Avalanche*. Missoula, MT. University of Montana Department of Society and Conservation.
- Freimund, W., Dalenberg, D., Mills, C., Weinberg, A., Markegard, S., Warner, T., **Miller, Z.D.** (2014). *Glacier National Park Site History: Logan Pass*. Missoula, MT. University of Montana Department of Society and Conservation.
- Freimund, W., Dalenberg, D., Mills, C., Weinburg, A., Markegard, S., Warner, T., **Miller, Z.D.** (2014). *Glacier National Park Site History: Sunrift Gorge*. Missoula, MT. University of Montana Department of Society and Conservation.
- Freimund, W., Dalenberg, D., Mills, C., Weinburg, A., Markegard, S., Warner, T., **Miller, Z.D.** (2014). *Glacier National Park Site History: The Loop*. Missoula, MT. University of Montana Department of Society and Conservation.

**Miller, Z.D.,** Freimund, W. (2016). *Yellowstone National Park Bear Safety Education Research: Descriptive Statistics Report*. Missoula, MT. University of Montana Department of Society and Conservation.

**Miller, Z.D.,** Freimund, W. (2016). *Yellowstone National Park Exploratory Research on Social Media: Descriptive Statistics Report*. Missoula, MT. University of Montana Department of Society and Conservation.

**Miller, Z.D.,** Freimund, W. (2015). *Yellowstone National Park Bison-Visitor Interactions: Descriptive Statistics Report*. Missoula, MT. University of Montana Department of Society and Conservation.

**Miller, Z.D.,** Freimund, W. (2015) *Driver narrative in the Going-to-the-Sun Road Corridor in Glacier National Park*. Missoula, MT. University of Montana Department of Society and Conservation.

**Miller, Z.D.,** Freimund, W. (2015) *Hiker narrative in the Going-to-the-Sun Road Corridor in Glacier National Park*. Missoula, MT. University of Montana Department of Society and Conservation.

**Miller, Z.D.,** Freimund, W. (2015). *Shuttle rider narrative in the Going-to-the-Sun Road Corridor in Glacier National Park*. Missoula, MT. University of Montana Department of Society and Conservation.

**Miller, Z.D.,** Freimund, W., & Dalenberg, D. (2015). *Glacier National Park: 2013 & 2014 Going-to-the-Sun Road Corridor Trail Use Report*. Missoula, MT. The University of Montana Department of Society and Conservation.

**Miller, Z.D.,** Freimund, W. (2014). *Going-to-the-Sun Road Visitor Experience and Support for Management Actions*. Missoula, MT. University of Montana Department of Society and Conservation.

## PRESENTATIONS

**Miller, Z.D.,** Freimund, W. (2016, October). *North American and International Visitor Perspectives on Bison Safety in Yellowstone National Park*. Presented at the 13<sup>th</sup> Biennial Science conference in Grand Teton National Park.

**Miller, Z.D.** (2016, April). *Social science perspectives on bison-human interactions in Yellowstone National Park*. Invitation to present at the 2016 Education Forum.

**Miller, Z.D.;** Freimund, W. (2015, April). *Managing complex park systems*. Presented at the 14<sup>th</sup> Annual Graduate Student Research Conference.

**Miller, Z.D.,** Freimund, W. (2015, March-April). *To shuttle or not to shuttle: Alternative transportation on the Going-to-the-Sun Road*. Presented at the George Wright Society Conference.

**Miller, Z.D.;** Freimund, W. (2014, September). *Glacier National Park Going-to-the-Sun Road 2014 Visitor Study*. Presented at the Glacier National Park Alternative Planning Workshop.

## RESEARCH EXPERIENCE

### THE UNIVERSITY OF MONTANA

2014-present *Yellowstone National Park Wildlife-Visitor Interactions*

Collaborative project with Yellowstone National Park exploring wildlife-visitor management with a specific focus on safety and evaluation of communication techniques (bison and grizzly bears). Responsibilities included research planning and design, obtaining OMB clearance, organizing and managing research protocol and staff inside the park, data collection using intercept surveys, data management and analysis, providing technical reports to park staff, and conducting presentations for park staff and related professionals.

2014-present *Yellowstone National Park Social Media Exploratory Research*

Collaborative project with Yellowstone National Park investigating the use of social media by the national parks. Responsibilities included research planning and design, obtaining OMB clearance, data collection using online surveys, organizing and managing research protocol and undergraduate assistants, providing technical reports to park staff, compose specialized report on research to OMB, and conducting presentations for park staff and related professionals.

2014-2016 *Glacier National Park Going-to-the-Sun Road Corridor Management Plan*

Collaborative project with Glacier National Park focusing on visitor management issues regarding the major corridor (Going-to-the-Sun Road) in the park. Focus areas for research included recreation use/impacts and visitor experience. Responsibilities included working with park managers during the conceptual planning process, drafting plans and EIS for proposed management plan, data collection using road and trail monitoring systems, data collection using intercept surveys, management of an on-site team of researchers, and conducting presentations to park staff and managers.

## CLEMSON UNIVERSITY

- 2014 *Thinking Globally – Acting Locally: Enhancing Environmental Sustainability Through an Interactive Mobile Exhibit from Kenya to South Carolina*  
Research project through Clemson University that involved collaboration with several universities in Kenya. Focus of the research was on cross-cultural perspectives of sustainability and the environment in the Maasai Mara region of Kenya. Responsibilities included helping plan and set-up exhibits and gather qualitative data using Photovoice techniques.
- 2014 *Sea Grant Project*  
Research project based in the coastal area of South Carolina. Responsibility was to intercept tourists in a variety of locations to obtain contact information for a mail questionnaire.
- 2014 *Visitor Study at the Audubon Center and Sanctuary at the Francis Beidler Forest*  
Research project that focused on soundscape qualities and birdwatchers. Responsibilities included research planning and design, data collection using both intercept and online surveys, and data analysis.
- 2013 *Lighting Experiment Night Survey*  
Research project based in Acadia National Park. Responsibility was to enter questionnaire responses into a spreadsheet database.
- 2013 *South Carolina Botanical Gardens Visitor Survey*  
Research project focuses on visitor's recreation activities and knowledge regarding an affiliated non-profit organization.

## TEACHING EXPERIENCE

### THE UNIVERSITY OF MONTANA

#### Instructor

- 2015-2016 *PTRM 150: Current Issues in Parks, Recreation, and Tourism Management*  
Planned and instructed a field-based class designed for freshman and transfer students that introduces them to different professional and academic focuses in the major.
- PTRM 310: Natural Resource Interpretation and Communication*  
Planned and instructed a class for juniors and seniors involving interpretive, education, and communication skills, methods, theories, and equipment for parks and protected area settings.

#### Guest lecturer

2014-current

Guest lecturer in several courses on a variety of topics, including social norms theory in parks and protected area management, soundscape resources and management, social media in conservation agencies and organizations, human-wildlife interaction in parks and protected area settings, and visitor use in parks and protected areas.

### CLEMSON UNIVERSITY

#### Instructor

- 2013-2014 *PTRM 2200: Foundations of Parks, Recreation, and Tourism Management*  
Instructed a class regarding the theoretical, philosophical, and historical foundations in relation to parks, recreation, and the natural environment.
- LS 1450: Camping and Backpacking*  
Planned and instructed semester-long courses focused on backpacking skills. Topics covered included leadership, trip planning, wilderness survival, first aid, food preparation, navigation, low-impact techniques (Leave-No-Trace), and equipment. Semester ended in a 3-day backpacking trip in a wildland setting.
- LS 1000: Birding*  
Planned and instructed a semester long class pertaining to recreational birding skills. Topics covered included bird identification by sight and sound, equipment, and low-impact birding techniques.
- LS 1650: Flatwater Kayaking in Everglades National Park*  
Co-instructed a course over several weeks designed build flatwater kayaking skills. Topics covered included leadership, trip planning, food preparation, equipment, paddling skills, and low-impact camping techniques (Leave-No-Trace). Course concluded with a weeklong kayaking trip through Big Cypress National Preserve and Everglades National Park.

## Guest lecturer and other course facilitation

Guest lecturer and co-facilitator in other courses and topics including flatwater kayaking, spelunking, natural history and contemporary naturalists, outdoor group management techniques, and soundscape management in parks and protected areas.

## RELATED PROFESSIONAL EXPERIENCE

- 2012 *Outdoor Classroom Instructor and Land Steward, Big Chico Creek and Butte Creek Ecological Reserves, California*  
Developed and instructed programs for elementary, junior high, and high school students and the local community. Topics included salmon migration, local natural history, traditional ecological knowledge, and fire ecology. Additionally, focused on ecological restoration and natural resource management, including pyrogeography/fuel reduction and native vegetation.
- 2011-2012 *Chico Sports, LTD, California*  
Worked as a sales associate and helped equip customers with outdoor gear associated with backpacking, hiking, and snowsports.
- 2011 *Chico Area Recreation and Park District, California*  
Planned and facilitated after-school programs for elementary school students.
- 2007-2010 *Recreation Equipment, Inc. (REI), California*  
Worked as a sales associate and helped equip customers with outdoor gear associated with backpacking, hiking, rock climbing, mountaineering, and other outdoor activities. Additionally, facilitated classes on birding in Northern California for the general public and Leave No Trace for elementary schools in the area.
- 2008 *Images for Conservation Fund: The Pro Tour, Texas*  
Assisted a professional photographer in an international competition by locating wildlife, working with wildlife specimens, setting up photography blinds, and working with photography equipment. Event is aimed at building nature-based tourism capacity in Southern Texas.
- 2006-2007 *Sierra at Tahoe, California*  
Operated lifts at a snowsport resort in the Tahoe area of the Sierra Nevada mountains. Duties included guest relations, safe loading/unloading of guests, and safe maintenance of loading/unloading areas.
- 2006-2007 *Embassy Vacation Resort/Lake Tahoe Vacation Resort, California*  
Planned, organized, and facilitated a diversity of programs for guests of multiple age ranges to satisfy the recreation needs of guests on site.
- 2005-2006 *Woodleaf Outdoor School, California*  
Taught environmental-based classes to 5,000 students (4<sup>th</sup> to 8<sup>th</sup> grade) per year at a residential outdoor school. Additional duties included coordinating high school counselors, conducting offsite public presentations, and presenting at the annual HawkFlight Fundraiser. Also served as the on-site coordinator for the Rusty Raptor Center. Duties included scheduling staff responsibilities, ordering food and supplies, cleaning enclosures, and working with various species of raptors.

## SERVICE

- 2014-present Reviewer for:  
*International Journal of Biodiversity and Conservation*  
*Human Ecology*  
*Human Dimensions of Wildlife: An International Journal*
- 2015/2016 Volunteer (2015) and volunteer coordinator (2016) for the Orvis Fly Fishing Olympics in Missoula, MT.
- 2015 Fundraiser volunteer for the Woodleaf Legacy Birding Team.
- 2016 Consulted the Open AID Alliance in Missoula, MT regarding strategic communication.
- 2014 Graduate student participant for the Faculty Evaluation Committee (FEC) for the Department of Society and Conservation at the University of Montana.
- 2011 Field trip leader and workshop presented at the Snow Goose Festival of the Pacific Flyway in Chico, CA.
- 2011 Assisted with a variety of projects, including bird banding, fuel reduction, and invasive species removal at the Big Chico Creek Ecological Reserve near Chico, CA.

- 2011 Booth presenter focusing on the decline of American Kestrels at the Butte Environmental Council's Endangered Species Faire in Chico, CA.
- 2010 Featured on the Discovery Channel TV show *Wreckreation Nation* for a segment about falconry in the US.
- 2010 Volunteered to help maintain native plants that are considered culturally significant to the local Machupta tribe of Native Americans through community involvement and hands-on management on the Butte Creek Ecological Reserve near Chico, CA.
- 2010 Assisted Kids and Creeks, and environmentally based outdoor education program for elementary school students, facilitate classes near Chico, CA.
- 2008 Volunteered as a point-counter for a USGS Breeding Bird Survey on a 35-mile stretch of road outside of Foresthill, CA.
- 2008 Conducted a raptor survey several times for a Ph.D. student at the University of California, Davis.

## **AWARDS AND SCHOLARSHIPS**

- 2016 Yellowstone National Park. Student scholarship for the 13<sup>th</sup> Biennial Scientific Conference on the Greater Yellowstone Ecosystem.
- 2016 The University of Montana College of Forestry. Stacie Ann DeWolf Memorial Scholarship.
- 2014 Society of Outdoor Recreation Professionals. Student scholarship for the National Outdoor Recreation Conference.
- 2014 Clemson University College of Health, Education, and Human Development. Graduate Student Award of Excellence.
- 2014 Clemson University Department of Parks, Recreation, and Tourism Management. Graduate Student Award of Excellence.

## **GRANTS AND OTHER FUNDING OPPORTUNITIES**

- 2014-2017 Yellowstone National Park: Evaluating the effectiveness of wildlife safety messaging for visitors. Funding provided for collaborative research project. PI: Wayne Freimund.
- 2013 Audubon Center and Sanctuary at Francis Beidler Forest. Housing provided during research project. PI: Jeffrey Hallo.
- 2009 REI Equipment Grant  
Requested and fulfilled \$10,000 in equipment for Shady Creek Outdoor School.

## **PROFESSIONAL AND OTHER ORGANIZATIONS**

- Current President and founder of the George Wright Society: Student Chapter of the University of Montana.
- Current Member of the George Wright Society.
- Current Member of the International Union for the Conservation of Nature (IUCN)'s World Commission on Protected Areas' (WCPA) Tourism and Protected Areas Specialist Group (TAPAS).
- Current Wildlife partner of the Wildlife Society.
- Current Alumni status of the Protected Area Research by Clemson Students.
- Current Member of the South Carolina Recreation and Parks Association.
- 2014-2015 Member of the Society of Outdoor Recreation Professionals.
- 2010-2012 Member of the Chico State Naturalists.
- 2007 Member of the Sierra College Environmentally Concerned Organization of Students (ECOS).

## **RELEVANT CERTIFICATIONS**

- Current First Aid/CPR
- Current Clemson University Ally for the LGBTQ Community
- Current Project Learning Tree Instructor
- Current Project WET Instructor
- Current Project WILD/WILD Aquatic Instructor