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Education

Ph.D. University of Wyoming. 2009
M.Sc. University of Arkansas. 2002
B.Sc. Southern Nazarene University. 1995.

Professional Experience

2009-Present Post-doctoral Research Associate. University of Wyoming,
Cooperative Fish and Wildlife Research Unit.
2010-Present Migratory Shore and Upland Game Bird Support Task Force
United States Fish and Wildlife Service.
2007-08 NSF Fellow, University of Wyoming Graduate School
GK-12 program
2002-2007 Graduate Teaching Assistant
University of Wyoming. Laramie, Wyoming
2000-2003 Contract Avian Biologist
USDA National Forest Service. Hot Springs, Arkansas
2002 Contract Avian Biologist
George Miksch Sutton Avian Research Center
Bartlesville, Oklahoma
1999-2001 Graduate Teaching Assistant
University of Arkansas. Fayetteville, Arkansas
1999 Watershed Research Intern
Oklahoma Water Resources Board. Oklahoma City, Oklahoma
1994-95 Fisheries Technician
Department of Environmental Quality, Oklahoma

Teaching Experience

2010 University of Wyoming. Fisheries Management
2010 Laramie County Community College. Yellowstone Ecology Field Course
2009 Laramie County Community College. Visiting lecturer General Biology
2007 University of Wyoming. Program in College Teaching

- 2003-06 University of Wyoming. Teaching Assistant
Human Physiology, Mammalian Physiology, Comparative Physiology, and
General Biology
- 2003-06 University of Wyoming Community Enrichment and Laramie River Ranch
Fly Casting and Fly Fishing Instructor
- 2001 Organization for Tropical Studies. Visiting Research Professor
Tropical Biology: An Ecological Approach: Cerro de la Muerte field site,
Costa Rica
- 1999-01 University of Arkansas. Teaching Assistant
Comparative Anatomy, Human Anatomy, Microbiology, and Principles of
Biology

Peer Reviewed Publications

- Carleton, SA.**, N. English, and P. Gerrity. 2011. Landscape links between fish, water, and geology: reconstructing the life history of Burbot (*Lota lota*) in the Wind River watershed. *In preparation Transactions of the American Fisheries Society.*
- Carleton, SA.** and C. Stricker. 2011. Tracking resource use partitioning and shifts in White-winged and Mourning Doves between desert and agricultural habitats. *In preparation Journal of Wildlife Management.*
- Martinez del Rio and **S.A. Carleton.** 2011. How fast and how faithful- the dynamics of isotopic incorporation into animal tissues. *In review Journal of Mammology.*
- Carleton, SA** and C.Martinez del Rio. 2011. Do birds look like rain? Biotic and anthropogenic landscape factors override abiotic factors in differentiating populations of a migratory game bird. *In review Journal of Applied Ecology.*
- Carleton, SA** and C Martinez del Rio. 2010. The relative contribution of growth and catabolism to isotopic incorporation in fish: an experimental study. *Functional Ecology* 24:805-812.
- Martínez del Rio, C, N Wolf, **S Carleton**, and L. Z. Gannes. 2009. Isotopic ecology ten years after a call for more laboratory experiments. *Biological Reviews* 84:91-111. (Cited 28)
- Wolf, N., **S Carleton** , and C. Martínez del Rio. 2009. Ten years of experimental animal isotopic ecology. *Functional Ecology* 23:17-26. (Cited 18)
- Carleton, SA**, L Lane, A Sprecher, and C Martinez del Rio. 2008. Should we use one, or multi-compartment models to describe ¹³C incorporation into animal tissues? *Rapid Communications in Mass Spectrometry* 22:3008-3014. (Cited 15)
- Carleton, SA**, BH Bakken, and C Martinez del Rio. 2006. Metabolic substrate use and the turnover of endogenous energy reserves in broad-tailed hummingbirds (*Selasphorus platycercus*). *Journal of Experimental Biology* 209:2622-2627. (Cited 13)
- Carleton, SA**, and C Martinez del Rio. 2005. The effect of cold-induced increase in metabolic rate on the rate of $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ incorporation in house sparrows (*Passer domesticus*). *Oecologia* 144:226-232. (Cited 45)
- Carleton, SA**, BO Wolf, and C Martinez del Rio. 2004. Keeling plots for hummingbirds: a

method to estimate carbon isotope ratios of respired CO₂ in small vertebrates.
Oecologia 141:1-6. (Cited 7)

Chapters, Reports, and Popular Press

- Fair, J., E. Paul, and J. Jones, Eds. 2010. Guidelines to the Use of Wild Birds in Research. Washington, D.C.: Ornithological Council. Contributing author. Chapter 3: Capture and Marking
- Carleton, SA.** 2010. Burbot in the Wind River Drainage. Wyoming Game and Fish Department annual newsletter
- Carleton, SA** and C Martinez del Rio. 2010. Final Report. A Genetic and Isotopic Characterization of Eastern and Western White-winged Dove Breeding Populations to Determine Wintering Ground Distribution and Population Genetic Structure. Texas Parks & Wildlife, Arizona Game & Fish Department, United States Fish & Wildlife Service
- Carleton, SA** and M Kauffman. 2010. Final Report. Reconstructing life histories of Burbot, *Lota lota*, in the Wind River Drainage. Wyoming Game & Fish Department

Published Abstracts

- Carleton, SA** and C Martinez del Rio. 2008-2010. United States Fish and Wildlife Service, Webless Migratory Game Bird Program. A Genetic and Isotopic Characterization of Eastern and Western White-winged Dove Breeding Populations to Determine Wintering Ground Distribution and Population Genetic Structure.
<http://www.fws.gov/migratorybirds/reports/reports.html>

Grants

- 2009-11 Wyoming Game and Fish Department. **Principal Investigator**
Using biomarkers to determine natal origins of shovelnose sturgeon (*Scaphirhynchus platorynchus*), channel catfish (*Ictalurus punctatus*), Yellowstone cutthroat (*Oncorhynchus clarkii bouvieri*), and kokanee salmon (*Oncorhynchus nerka*). **\$150,000**
- 2009-10 Wyoming Game and Fish Department. **Principal Investigator**
Reconstructing life histories of juvenile and adult burbot (*Lota lota*) within the Wind River watershed using otolith microchemistry. **\$10,000**
- 2007-09 United States Fish and Wildlife Service. **Principal Investigator**
Project: Investigating migratory connectivity, habitat use, and post-breeding dispersal patterns in a migratory game bird, the white-winged dove using stable isotopes and AFLP analysis. **\$38,000**
- 2005 UW College of Arts and Sciences summer research award
Project: Do hummingbirds fuel metabolism with income or capital: a test using $\delta^{13}\text{C}$ of respired CO₂. **\$2500**

- 2004 Arizona Game and Fish Department
Project: A genetic and isotopic characterization of Eastern and Western White-winged Dove populations in Texas and Arizona **\$12,000**
- 2004 NIH-RIN summer independent research award
Project: Development of a method to measure the $\delta^{13}\text{C}$ of respired CO_2 in small birds and mammals. **\$2250**
- 2003-05 Texas Parks and Wildlife Department
Project: A genetic and isotopic characterization of Eastern and Western White-winged Dove populations in Texas and Arizona to determine migratory corridors, wintering grounds, and population genetic structure. **\$56,000**
- 2003 NIH-BRIN summer independent research award
Project: The effect of cold-induced increased metabolic rate on the rate of $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ incorporation in House Sparrows (*Passer domesticus*). **\$250**
- 2003 NSF Graduate Fellowship Award
Project: A genetic and isotopic characterization of Eastern and Western subspecies of White-winged Doves (*Zenaida asiatica*) to determine migratory corridors and wintering grounds. **\$9000**
- 2001 Arkansas Audubon Society student research grant
- 2001 Sigma Xi grant-in-aid for research
- 2001 Arkansas Audubon Society student research grant
Project: Effects of abundance and nutritional content of cloud forest fruits on selection for nestlings by Resplendent Quetzals (*Pharomachrus mocino*) feeding young. **\$1400**

Current Collaborative Projects

Using satellite telemetry, Brownian Bridge model analysis and GIS to identify important stopover sites for Tundra Swans (*Cygnus columbianus*) migrating to and from Alaskan breeding grounds. (Craig Ely, Ecologist, USGS Alaska Science Center)

Differentiating hatchery and wild origin walleye as a tool to determine the success of a statewide sport fish stocking program. (Jerry Wilhite & Gene Galinat, South Dakota Game Fish & Parks)

Describing patterns of landscape and alternative prey source use in Alaskan Gray Wolves using GPS collar data, isotopes, and GIS spatial analysis. (Page Spencer, Wildlife Biologist, National Park Service; Jeff Welker, University of Alaska-Anchorage)

Invited Presentations

- 2010 Bureau of Reclamation statewide fisheries coordination meeting, Casper, WY
- 2010 Colorado State University, American Fisheries Society Student Sub-Unit, Fort Collins, CO
- 2010 University of Wyoming, Department of Zoology & Physiology, Laramie, WY
- 2009 University of Alaska-Anchorage, Biology Department, Anchorage, AK
- 2009 University of Wyoming, Department of Zoology & Physiology, Laramie, WY
- 2008 Universidad Nacional Autonoma de Mexico. Colima, Mexico.
- 2008 Chamela Biological Research Station. Chamela, Mexico.
- 2005 Calvin College, Biology Department. Grand Rapids, MI.
- 2005 University of Wyoming, Dept. of Animal Sciences. Laramie, WY.

Meeting Presentations

- 2010 The American Fisheries Society. Wyoming-Colorado Chapter. *Stable Isotopes in Fisheries Ecology and Management.*
- 2009 The Wildlife Society, Wyoming Chapter. *Stable Isotopes in Wildlife Ecology.*
- 2009 The American Fisheries Society. South Dakota. *Stable Isotopes in Fisheries Ecology and Management.*
- 2009 The American Fisheries Society. Albuquerque, NM. *Determining the Natal Origins of Salmonids in a Wyoming Fishery.*
- 2008 Graduate Student Symposium, University of Wyoming, Laramie, WY. *Using stable isotopes to determine migratory connectivity, breeding season habitat use and post-breeding movement patterns in white-winged doves*
- 2008 The 6th International Conference on Applications of Stable Isotope Techniques to Ecological Studies. Honolulu, Hawaii. *Biotic factors override abiotic factors in determining δD of feathers in a migratory bird species.*
- 2008 National Science Foundation GK-12 Annual Meeting. Washington, D.C. *The Common Denominator: Using stable isotopes to integrate multiple fields of science into the K-12 classroom.*
- 2007 Society for Integrative and Comparative Biology. Phoenix, Arizona. *Efficiency of protein incorporation and diet determine trophic isotope spacing in tilapia (*Oreochromis niloticus*).*
- 2006 North American Ornithological Congress. Veracruz, Mexico. *Using stable isotopes to determine migratory connectivity, breeding season habitat use and post-breeding movement patterns in White-winged Doves (*Zenaida asiatica*)*
- 2001 Oklahoma Ornithological Society. Norman, Oklahoma. *Avian foraging on *Bursera simaruba* at Los Tuxtlas Biological Research Station, Mexico.*
- 1999 Oklahoma Academy of Science Technical Meeting. Oklahoma City, Oklahoma. *Population density of the Resplendent Quetzal (*Pharomachrus moccino*) in the Rio Savegre watershed at San Gerardo de Dota, Costa Rica.*

Reviewer

Journal of Wildlife Management, Ecology, Biology Letters, Oecologia, Journal of Experimental Biology, Wilson Ornithological Society, Rapid Communications in Mass Spectrometry

Professional Affiliations

American Ornithologists Union, American Fisheries Society, Wilson Ornithological Society, Association of Field Ornithologist, Society for Integrative and Comparative Biology, The Wildlife Society.

References

Academic

Matthew Kauffman (Postdoctoral advisor)
Unit Leader
University of Wyoming
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Carlos Martinez del Rio (PhD advisor)
University of Wyoming
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Henry "Hank" Harlow (Professor)
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Kim Smith (Masters advisor)
University of Arkansas
Department of Biological Sciences
Science and Engineering 601
Fayetteville, AR 72701
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Agency

David Zafft
Wyoming Game & Fish Department
Fisheries Management Coordinator
528 S. Adams
Laramie, WY 82070
307-745-4046

Jim Heffelfinger
Arizona Game & Fish Department
Regional Game Specialist
555 N. Greasewood Rd.
Tucson, AZ 85745
520-388-4448

Mike Rabe
Arizona Game & Fish Department
Migratory Game Bird Biologist
5000 W Carefree Hwy
Phoenix, AZ 85086
623-236-7353

Paul Gerrity
Wyoming Game & Fish Department
Biologist
260 Buena Vista
Lander, WY 82520
307-332-2688