

THE METHOW CONSERVANCY 2017 METHOW CONSERVATION COURSE

The Life & Times of Methow Mammals

Mondays, 6:00 – 8:00pm, February 6th – March 13th at the Winthrop Barn

Feb. 6th - Mammal Taxonomy and Evolution

David Moskowitz, *biologist, photographer, outdoor educator, and author*

Feb. 13th - Canids and Ursids

Scott Fitkin, *District Wildlife Biologist, Washington Dept of Fish and Wildlife*

Dr. Bill Gaines, *Wildlife Ecologist, Washington Conservation Science Institute*

Feb. 20th - Ungulates

Sarah Hansen, *Statewide Deer Specialist, Washington Dept of Fish and Wildlife*

Jeff Heinlen, *Assistant District Wildlife Biologist, Washington Dept of Fish and Wildlife*

Feb. 27th – Felids & Mustelids

John Rohrer, *District Wildlife Biologist, U.S. Forest Service, Methow Valley Ranger District*

March 6th - Rodents & Lagomorphs plus the Methow Beaver Project

Dr. Kristine Ernest, *Professor of Biology at Central Washington University*

Dr. Torre Stockard, *Methow Beaver Project Lead Coordinator*

March 13th – Insectivores, Mammal Specimen Lab and The 10 Decades Project

Dr. Peter Wimberger, *Professor of Biology at University of Puget Sound and the Director of the Slater Museum of Natural History*

Kent Woodruff, *Wildlife Biologist, U.S. Forest Service, Okanogan-Wenatchee National Forest*

Fee-Based Bonus Classes & Field Trips Include:

Feb 5th: 8:30am – 1:30pm, wildlife tracking and wildlife camera installation class with David Moskowitz, \$45

March 11th: 3:00-5:30pm on mammal tracking, foot morphology, locomotion/gait and more with Marcus Reynerson. \$30

March 12th: TBD if there's interest: wildlife tracking and wildlife camera gathering class with Marcus Reynerson, \$40

Please look through the entire syllabus for the listed resources, as you may want to read some sooner rather than later. “Core” resources for each class are suggested. For the avid reader/learner, some additional articles are listed. Of course, all resources are optional, they are simply meant to enhance your course experience! **All resources that are not books are also available electronically at:** http://www.methowconservancy.org/course_docs_2017.html.

Overall reading materials we recommend:

1. Petersons Field Guide to Mammals of North America, 4th edition, OR the Princeton Field Guides “Mammals of North America” (Kays and Wilson), OR another mammal guidebook.
2. [The Burke Museum’s extensive website “Mammals of Washington”](#)

Feb.6th - *Mammal Taxonomy and Evolution*

David Moskowitz

Mammalia is a highly successful class of animals that has existed for about 200 million years. Mammals have evolved to fill a wide variety of ecological niches in habitats around the globe. Many species have become highly specialized for specific behaviors and to extreme environmental conditions. Although all mammals share the same basic survival requirements, the details of how these requirements are met varies widely between species.

This class will explore the evolutionary origins of mammals and how the class has diversified into the wondrously varied collection of animals we know today. Using species found in and around the Methow Valley as examples, we will explore the basic anatomy of mammals and how structures such as dentition, limbs, and body size vary based on habitat and behavior in mammals. Basics patterns of reproductive biology, social organization, and diet will be introduced for the mammals of our region

Presenter:

David Moskowitz is the author and photographer of two books, [*Wildlife of the Pacific Northwest*](#) and [*Wolves in the Land of Salmon*](#). He resides in Winthrop, Washington.

As a biologist, photographer and educator, David has worked on wildlife studies and conservation initiatives around the United States and internationally. The focus of much his work has been on using tracking and other non-invasive research methods to study wildlife and promote conservation. David is certified as a Track and Sign Specialist, Trailing Specialist, and Senior Tracker through [Cybertracker Conservation](#) and is an Evaluator for this rigorous international professional certification program. David holds a bachelor's degree in Environmental Studies from Prescott College.

David's current project, the [Mountain Caribou Initiative](#), is a multi-media exploration of the conservation challenges faced in the world's largest remaining inland temperate rainforest, found in the interior mountains of western North America and home to one of the most unique and endangered populations of caribou found on the planet.

Core Resources:

1. [Mammals of the Methow Watershed](#), list by Dana Visalli

For the Avid Learner:

1. D. Moskowitz. 2010. [Wildlife of the Pacific Northwest. \(pages 87-93 provided here\)](#)

Feb. 13th - *Canids and Ursids*

Scott Fitkin & Bill Gaines

Scott will provide a brief overview of the morphological characteristics that define the canid family, and introduce our 3 local species: fox, coyote, and wolf. He'll discuss the life histories of these three species including their unique habitat requirements, niche separation and overlap. Scott will also compare and contrast their morphology including diagnostic tools for telling them apart in the field. Honing in on wolves, Scott will give an overview of the history of wolves in WA and in the Methow, and he'll touch briefly on current wolf research, monitoring methodology, and management, and mention ways to experience wolves in the wild.

Bill will delve into the daily lives of black bears and grizzly bears as we see how they adjust their habits as the seasons change. We'll discover fascinating details about their intelligence and learn of the life-long bond that forms between a mother bear and her cub. And we'll explore the eons long relationships and interactions between bears and humans. Given the current public policy issues surrounding grizzly bear reintroduction (which Bill will discuss), Bill's goal is to help us develop a mutual understanding of these fascinating animals and develop a deeper understanding for the role they play in the wildlands that surround us and that we share.

Presenters:

Scott Fitkin has worked for the Washington Dept of Fish and Wildlife (WDFW) for almost 28 years. He started his career with the agency as a field biologist on the North Cascades Grizzly Bear / Gray Wolf Investigations Project for several years then transitioned to his current position as the Okanogan District Wildlife Biologist. Scott has worked on many different taxa over the years with an emphasis on rare carnivores including wolves, lynx, wolverines, and grizzly bears. He is currently the WDFW representative on the North Cascades Ecosystem (NCE) Grizzly Bear Technical Team and the Interagency Science Team working on the NCE Grizzly Restoration Environmental Impact Statement.

Bill Gaines is a Wildlife Ecologist and Director of the Washington Conservation Science Institute. He received his Ph.D. in Wildlife Science from the University of Washington. He has been involved in wildlife research and forest management for the past three decades, including 27-years as a wildlife biologist with the US Forest Service. He has conducted a number of research projects on bears and other large carnivores in the North Cascades Ecosystem, and has been involved in the grizzly bear recovery efforts in the North Cascades for the past 25 years. He has published over 60 peer-reviewed articles on a wide-range of wildlife species and conservation topics.

Core Resources:

1. [The WDFW "Living with Coyotes" factsheet.](#)
2. Identifying Washington's Wolves (brochure that Scott will bring)
3. [Seattle Times Jan 12, 2017 article on Grizzly Restoration Draft EIS](#)
4. [The Black Bear](#)
5. [Grizzly Bear Recovery in the North Cascades](#)

For the Avid Learner:

1. B. Kilham. 2013. Out on a Limb.
2. D. Smith and G. Ferguson. 2012. Decade of the Wolf, Revised and Updated.
3. D. Moskowitz. 2013. Wolves in the Land of Salmon.

Feb. 20th - *Ungulates*

Sara Hansen & Jeff Heinlen

This class will be split between Sara and Jeff, who will be talking about our local ungulate species including deer, elk, moose, sheep, and goats. Sara will start by providing a brief overview of the morphological characteristics that define the cervid (deer) family and their unique life history strategies and habitat requirements. Jeff will cover the morphology, life history, and habitat needs of bighorn sheep and mountain goats. We will be discussing the ecology of these species throughout the evening and touch on local population dynamics as well.

Presenter:

Sara Hansen is the statewide Deer Specialist for WDFW, stationed in Spokane. Her work is directed at developing and coordinating long term monitoring efforts for deer populations across the state and aiding district staff in meeting a range of management objectives and challenges. In a nutshell, her time is spent collecting and assessing field survey and harvest data and working with our diverse pool of biologists and interested public in Washington State to maintain resilient and sustainable deer populations well into the future.

Sara has a BA in Environmental Studies with minors in Biology and Geography from Cal State San Bernardino and an MS in Fish and Wildlife Biology and Management from SUNY ESF in Syracuse, NY where her research focused on developing large-scale, spatially explicit population monitoring techniques for large mammals. She also taught coursework at ESF focused on wildlife science, conservation, and management. Though originally from Kansas, Sara has served as a wildlife biologist for state, federal, and university organizations throughout the country working on many different species including elk, bison, swift fox, gray fox, desert tortoise, song birds, pygmy rabbits, bobcats, and wolves.

Jeff Heinlen graduated from Washington State University and began with WDFW in the early 1990s as a WCC seasonal on the Wells Wildlife Area. He then worked for several years with the US Forest Service as a Wildlife Biologist on the Tonasket Ranger District before moving back to WDFW. He has worked at his current position for the last 13 years. Jeff enjoys the diversity of wildlife he gets to work with from surveying mule deer, bighorn sheep, sharp-tailed grouse and waterfowl to assisting with wolverine, lynx and common loon captures for research projects. Jeff was raised in the Okanogan and is privileged to be able to work and raise his family here.

Core Resources:

1. [Mule Deer: Changing Landscapes, Changing Perspectives \(WAFWA publication\)](#)
2. [The WDFW "Living with Moose" webpage](#) (several links to peruse there)
3. [The IUCN Red List of Threatened Species publication on *Ovis canadensis*](#)
2. [Ovis canadensis description from The American Society of Mammalogists](#)

For the Avid Learner:

1. [Keep Trophy Records Honest: Identifying Whitetail/Mule Deer Hybrids](#) (Fair Chase Magazine 2012)
2. [Moose abundance, distribution, and demographic characteristics in eastern Washington](#), WDFW 2015 report.

Feb 27th – *Felids & Mustelids*

John Rohrer

For the Felid Family, John will provide a summary of cat morphology, and their characteristics and unique adaptations. John will focus on our 3 species - bobcat, cougar, lynx – including how to differentiate bobcat from lynx, and the tracks of all 3. He'll give a summary of the Black Pine Lynx project including the effects of large wildfires on lynx habitat. John will also cover Mustelids with a summary of “weasely” characteristics, and then focus on weasel, marten, and wolverine but also touching on river otter, fisher, and badger. He'll finish with a summary of the North Cascades Wolverine Study including the effects of climate change on wolverine.

Presenter:

John Rohrer has been a wildlife biologist for the Forest Service in the Methow Valley for 26 years. He was the Field Coordinator for the North Cascades Wolverine Study and the Black Pine Basin Lynx Project. John lives in Winthrop with his wife, Kelly.

Core Resources:

1. [Weasels Are Built for the Hunt by Natalie Angier, NY Times article](#)
2. [On the Track of the Elusive Wolverine, in Science Findings](#)
3. [The Wolverine Foundation website](#)
4. [WDFW “Fishers in Washington” webpage](#)

For the Avid Learner:

1. D. Chadwick. 2012. The Wolverine Way.
2. M. Hornocker & S. Negri. 2009. Cougar: Ecology and Conservation.

March 6th – *Rodents & Lagomorphs plus the Methow Beaver Project*

Kris Ernest & Torre Stockard

Kris will give an overview of some of the ecological and environmental challenges facing these small mammals, talk about adaptations that different kinds of lagomorphs and rodents have evolved in response to those challenges. She will draw on examples from her research on pikas and other small mammals to talk about conservation issues, and in particular, ecological connectivity. She will bring some skulls and skins of representative lagomorphs and rodents, and will show several types of live traps and other equipment used for small mammal field research. Participants will have the opportunity to identify individual lagomorph or rodent specimens (or stuffed toy animals) with a Portable Passive Integrated Transponder (PIT)-tag reader. Torre will briefly cover beaver biology and ecology as she updates us on the current work of the Methow Beaver Project. Torre will also bring beaver skulls, pelts, and traps.

Presenters:

Kristina Ernest is a professor at Central Washington University, where she teaches courses in introductory biology, wildlife ecology, biomes of the Pacific Northwest (which travels through the Methow area), and field techniques. As a terrestrial ecologist interested in populations and communities, she has conducted research on small mammal populations (including lagomorphs and rodents) and plant-herbivore interactions in the Washington, the southwestern US, Brazil, and Australia for the past 20 years. She and her undergraduate and graduate students conduct wildlife monitoring for the I-90 Snoqualmie Pass East Project, documenting species distributions and habitat use near the highway and testing the effectiveness of the wildlife crossing structures that are being put in place. Kris received her B.S. in Biology at Cornell University, M.S. in Zoology at the University of Oklahoma, and Ph.D. in Biology at the University of New Mexico (dissertation research on interactions among plants and their insect and mammalian herbivores).

Torre Stockard is a research biologist with a PhD in Marine Biology from the Scripps Institution of Oceanography. Her eclectic career has taken her to the top of the Greenland ice sheet, Antarctica to study emperor penguins, and National Geographic. Since moving to the Methow in 2001, she has gradually transitioned to the fresh-water communities of our own backyard, working on salmon recovery projects and beaver restoration. Currently, she is phasing in to her new role as the Methow Beaver Project Lead Coordinator. When not mucking about in beaver ponds, she can be found birding anywhere, or observing night wildlife from the cab of a snow cat in her other job as a ski trails groomer for Methow Trails

Core Resources:

1. [Truffle in the Forest article by Chris Maser.](#)
2. [National Wildlife Federation American Pika webpage.](#)
3. The [Rodentia](#) and [Lagomorpha](#) pages on the Burke's website, then click on individual species to see distribution maps, distribution in Washington, and other species information.
4. [The Methow Beaver Project webpage](#) (also see the "Resources" link and look the Beaver Restoration Guide and the 2015 Accomplishments

For the Avid Learner:

1. Merritt, J.F. 2010. *The Biology of Small Mammals*. Johns Hopkins University Press.
2. Lehmkuhl, J. F., R. D. Peffer, M. A. O'Connell. 2008. Riparian and upland small mammals on the east slope of the Cascade Range, Washington. *Northwest Science* 82:94-107.
3. Dearing, M.D. 1997. The manipulation of plant toxins by a food-hoarding herbivore, *Ochotona princeps*. *Ecology* 78:774-781.
4. D. Muller-Schwarze. 2011. *The Beaver: Its Life and Impact*. Cornell University Press

March 13th – *Insectivores, Mammal Specimen Lab, Wildlife Camera Show & Tell, and The 10 Decades Project*

Peter Wimberger & Kent Woodruff

Peter will cover the fascinating insectivorous mammals in our area: moles, shrews and bats. Bats, the only mammal group to colonize the air, are one of the most diverse mammal groups. We will discuss their adaptive radiation and then focus on the natural history of Washington species and those found in the Methow. Shrews, another remarkable group of mammals, are notable for their unusually high metabolic rates, venom and being the only terrestrial mammals to use echolocation. And last but not least, we will discuss the shrew relatives, moles, a group rarely, if ever, found in the Methow. Peter will bring an assortment of mammal skins and skulls from the Slater Museum to illustrate these groups and some of the other groups covered earlier in the course. We will also look at the best images that were captured on our wildlife cameras that have been at several Methow locations during the course's six weeks.

Kent will take us through The 10 Decades project with the short Methow-based film "One Stick at a Time." The project is an attempt to inspire more than 1000 of us to take measurable, concrete steps for climate adaptation in every area for which we are responsible. The film has been in the works for the last two years and includes some of the people that Kent works with here in the Methow who are also striving to make a difference. It is a conversation starter for answering the question "What can I do?" It is a chance for us to think about what our regional landscape will be like ten decades from now and start today to make it better than it would be if we did nothing.

Presenters:

Peter Wimberger is an evolutionary and conservation biologist at University of Puget Sound where he also directs the Slater Museum of Natural History. His research interests are eclectic and he has published papers on organisms ranging from birds, fishes and plants to ice worms. Wimberger started his biology career working on a mammal, the Rocky Mountain goat, in Olympic National Park when he was just a kid.

For nearly 3 decades **Kent Woodruff** has spent time from the lowest to the highest parts of the Methow watershed trying to learn more about what's here and how to take care of it. He is a gardner, happy husband to a librarian, father of three adventurous young men, and a curious learner of the ways of the planet and its' inhabitants. The Forest Service will be retiring soon as his employer and the many tributaries of the Methow River, and the eastern Washington shrub steppe, and the remote parts of the Pasayten Wilderness will soon demand considerably more of his time

Core Resources:

1. To Be Announced!
2. [The 10 Decades Project factsheet](#)