

## THE METHOW CONSERVANCY 2018 METHOW CONSERVATION COURSE

### *Herpetology:*

#### *The cold-blooded but totally cool world of reptiles and amphibians*

Mondays, Feb 12, Feb 26, March 5 and March 12, 6:00 – 8:00pm at the Winthrop Barn

#### **Feb. 12<sup>th</sup> - What are Herps?**

Dr. Dan Beck, *Professor of Biology at Central WA University*

#### **Feb 26<sup>th</sup> - The Ecology and Distribution of Methow Reptile Species**

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

#### **March 5<sup>th</sup> - The Ecology and Distribution of Methow Amphibian Species, plus Amphibian Diseases**

Julie Grialou, *Conservation Biologist, Methow Conservancy*

Jennifer Zajac, *Biologist. Currently, GIS Specialist, U.S. Forest Service, Methow Valley Ranger District*

#### **March 12<sup>th</sup> - Rattlesnakes & the Northern Pacific Rattlesnake, including Methow Research** John

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

#### **Other Classes & Field Sessions Include:**

- **Sunday April 8<sup>th</sup>:** Amphibian Survey training lead by Julie Grialou, includes a morning of indoor information then learning how to survey ponds outside. Two surveys are on your own time will need to be done in April and May.
- **Saturday May 12<sup>th</sup>:** The snake guru duo of John Rohrer & Scott Fitkin will lead us on search for Methow snakes, including a safe way to view and learn about rattlesnakes. Tentatively scheduled for May 12, pending sunny warm weather, which is necessary for finding snakes.

**This syllabus provides a detailed page for each class, including links to websites, articles, books and other resources.** All resources are optional, they are simply meant to enhance your course experience! **This syllabus with links is also available electronically at:**

[http://www.methowconservancy.org/course\\_docs\\_2018.html](http://www.methowconservancy.org/course_docs_2018.html).

#### **Overall reading materials we recommend:**

1. The Burke Museum's Amphibians & Reptiles of Washington website:  
<http://www.burkemuseum.org/blog/curated/amphibians-reptiles-washington>
2. WDFW's Washington Herp Atlas website and their "Checklist of Washington Amphibians and Reptiles." This site has detailed species factsheets for every WA species!  
[https://wdfw.wa.gov/conservation/herp\\_atlas/speciesmain.html](https://wdfw.wa.gov/conservation/herp_atlas/speciesmain.html)
3. The Slater Museum's Amphibians & Reptiles website, including lists and keys to WA species:  
<https://www.pugetsound.edu/academics/academic-resources/slater-museum/biodiversity-resources/amphibians-reptiles/>
4. Western Reptiles and Amphibians by Robert C. Stebbins, Third edition, Peterson Field Guide Series (2003).

## Feb. 12th – What are Herps?

### Dan Beck

Dan will give an overview of herpetology and what it means to be a reptile or an amphibian. What makes them special, including physiology, evolution, behavior, diversity, etc., and what are their roles in an ecosystem? He'll also give an introduction to species in WA, including why they are here and where they are found. Lastly, Dan will share some of his work on venomous reptiles and discoveries made about rattlesnakes in Washington (with the help of John Rohrer), and share a few live creatures with the audience.

#### Presenter:

**Dan Beck** is a biology professor at Central Washington University. Dan grew up near Salt Lake City, chasing lizards and snakes along Utah's Wasatch front. As a youth he worked at Hogle Zoo, and also as a furniture maker before earning BS and MS degrees at Utah State University and a PhD at the University of Arizona. At CWU he teaches a diversity of biology/ecology courses, and especially loves taking his students into the field to meet nature in person. He and his students have spent about 3 decades investigating the ecology of reptiles and other creatures from the shrub steppe and forests of Washington State to the desert southwest, to the tropical dry forests of Mexico. He is particularly fond of rattlesnakes, Gila monsters and Beaded lizards. His book "Biology of Gila monsters and Beaded Lizards" is now considered the standard reference for these amazing creatures. Dan lives in a straw bale home with his family in Ellensburg. Check out this short presentation of Dan's about "home" - <https://www.pechakucha.org/presentations/where-does-a-home-come-from>.

#### Core Resources:

1. See the core resources for the whole class on the first page.
2. <http://www.californiaherps.com/northwest2.html> - Photos of reptiles and amphibian species found in Oregon and Washington. The site also has complete lists of herps, sounds, videos and more.

#### For the Avid Learner:

1. Pough, H. (1980). [The Advantages of Ectothermy for Tetrapods](#). *The American Naturalist*, Vol. 115, No. 1, pp. 92-112.
2. Amphibians of the Pacific Northwest, Jones et al. (2005) Seattle Audubon Soc.
3. Amphibians of Oregon, Washington and British Columbia. Corkran and Thomas. Lone Pine Press. 2006.
4. Reptiles of the Northwest by Alan St. John, Lone Pine Publishing (2002).
5. Reptiles of Washington and Oregon, Storm and Leonard (ed) Seattle Audubon Soc.
6. Amphibians and Reptiles of the Pacific Northwest. Nussbaum, Brodie, and Storm. University of Idaho Press, 1983.

## Feb 26th - The Ecology and Distribution of Methow Reptile Species

### Scott Fitkin

Scott will hone-in on our local Methow reptiles, focusing on the ecology, life-cycle and distribution of them. He'll also provide some information on some unique reptile populations within WA State including side-blotched lizards, striped whip snakes, and mountain king snakes. For two of the state's listed species (Western pond turtle and Northern leopard frog), Scott will give some detailed information on their status and management.

#### Presenter:

**Scott Fitkin** has worked for the Washington Dept of Fish and Wildlife (WDFW) for almost 29 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 including some of our local reptiles and amphibians. He has partnered on local rattlesnake research and inventory, and conducted and monitoring work on all our local herptile species.

#### Core Resources:

1. Reptiles of the Methow Watershed, list by Dana Visalli:  
<http://www.mountainkindnaturalist.com/wp-content/uploads/2016/03/Reptiles-of-the-Methow.pdf>
2. WDFW Conservation Bulletin on Western Pond Turtles:  
[https://wdfw.wa.gov/conservation/western\\_pond\\_turtle/](https://wdfw.wa.gov/conservation/western_pond_turtle/)
3. Species factsheets from WDFW's WA Herp Atlas:  
[https://wdfw.wa.gov/conservation/herp\\_atlas/speciesmain.html](https://wdfw.wa.gov/conservation/herp_atlas/speciesmain.html). Check out Painted Turtle, Pygmy Short-horned Lizard, Western Fence Lizard, and all the snakes!

#### For the Avid Learner:

1. WDFW "Periodic Status Review for the Western Pond Turtle in Washington (2017)"  
<https://wdfw.wa.gov/publications/01853/>

## March 5th - The Ecology and Distribution of Methow Amphibian Species, plus Amphibian Disease and Toxicology

**Julie Grialou & Jennifer Zajac**

Tonight, we will learn about Methow amphibians, including their unique physiology and role in the ecosystem, and what we know about their distribution in the valley. Julie will also provide a summary of results from past amphibian surveys in the Methow as we prepare for another survey this spring. Jenn will finish the night talking about amphibian disease and toxicology. Amphibians are declining at an alarmingly high rate - disease and pollution are among the top contributors. We'll learn about the fungal amphibian disease *Batrachochytrium dendrobatidis* (Bd), also known as the chytrid fungus, from its origin to diagnostic techniques. Jenn will also cover the effects of agricultural runoff on the amphibians, and more broadly, the interactive effects of disease and toxicology on amphibians.

### Presenters:

**Julie** has worked at the Methow Conservancy as a Conservation Biologist for about 10 years. She obtained her Master's degree in Wildlife Science at the UW in 1995. Her Master's project involved studying the effects of forest management on amphibians in western Washington. Although she no longer works directly with amphibians, they are still her favorite group of wildlife. In 2006 & 2007, she led a group of volunteers in surveying amphibians on state and private lands in the Methow Valley as a partner project of the Methow Conservancy and the Methow Wildlife Area (WDFW).

**Jennifer** grew up in Silver City, NM with the Gila National Forest as her backyard, and with her family spent vacations exploring the surrounding wilderness. In 2007, she graduated with a Bachelor's Degree in Biology from Benedictine College in Atchison KS where she studied water quality of the wetland along the Missouri River. Then in 2011, Jenn earned a Master's Degree in Biology from the University of South Dakota. From there she wandered the country jumping between different biology related positions and completing a thru hike of the Pacific Crest Trail in 2013. She settled in the Methow Valley in May of 2015. Jenn is currently pursuing a second masters in Geospatial Information Systems (GIS) from Northern Arizona University and working part time at the USFS here in Winthrop WA.

### Core Resources:

1. Amphibians of the Methow Watershed, list by Dana Visalli:

<http://www.mountainkindnaturalist.com/wp-content/uploads/2016/03/Amphibians-of-the-Methow-Watershed.pdf>

2. Species factsheets from WDFW's Herp Atlas, including Great Basin Spadefoot, Pacific Treefrog, Columbia Spotted Frog, Western Toad, Long-toed Salamander, and Tiger Salamander

[https://wdfw.wa.gov/conservation/herp\\_atlas/speciesmain.html](https://wdfw.wa.gov/conservation/herp_atlas/speciesmain.html).

3. WDFW's Living with Frogs site includes "Facts about WA Treefrogs," "Native Frogs of WA," & "Attracting and Maintaining Amphibians on Your Property" <https://wdfw.wa.gov/living/frogs.html>

4. <https://amphibiaweb.org/> - provides information on amphibian declines, natural history, conservation, and taxonomy.

### For the Avid Learner:

1. Characteristics of Amphibia, an Introduction (Resources for Biology Education by D G Mackean): <http://www.biology-resources.com/amphibia.html> (Click the images and links for full-size documents and drawings)

## March 12th – Rattlesnakes & the Northern Pacific Rattlesnake, including Methow Research John Rohrer

John will talk about rattlesnakes in general, including their taxonomy and diversity, but also the various ways they acquire food, what's in a snakebite, and what the rattle is all out. Then John will hone-in on our local Northern Pacific rattlesnake with lots of interesting details from studies and research, including the challenges of living at northern latitudes; winter dens and egress/ingress; den fidelity vs genetic exchange; nuisance rattlesnakes and translocations; and rattlesnakes as "watchable wildlife."

### Presenter:

**John Rohrer** has been a wildlife biologist for the Forest Service in the Methow Valley for 27 years. He grew up in the Mojave Desert along the Colorado River in northwestern Arizona. He attended Northern Arizona University in Flagstaff for 3 years, then finished up a BS degree in Wildlife Ecology at the University of Arizona in Tucson. John worked for 4 seasons as a bio-tech on the Kaibab National Forest in northern Arizona where he met and married his wife, Kelly. Then they loaded up the truck and moved to California, where they studied tule elk. John attended Humboldt State University and acquired a MS degree in Wildlife Management. John's next move was to Tonasket, WA where he worked as a habitat biologist for the WA Dept. of Wildlife. He and his family (with 2 kids now) moved to the Methow Valley in 1991 when he was hired to be a wildlife biologist for the Twisp Ranger District (later merged with Winthrop to become the Methow Valley Ranger District). As a Forest Service biologist, John has become familiar with all the terrestrial species that any of their projects might affect; raptors, woodpeckers, songbirds, waterfowl, deer, moose, bats, amphibians, bears, wolves, mountain goats, beavers, lynx, and all the rest. John says, "I enjoy learning about and working with all of them, but I find forest carnivores, amphibians, and reptiles to be the most interesting."

### Core Resources:

1. Doughton, S. (2017, June 6). Don't fear Washington state's only rattlesnake — get to know it, biologist urges. *The Seattle Times*. <https://www.seattletimes.com/seattle-news/science/dont-fear-washington-states-only-rattler-get-to-know-it-biologist-urges/> (featuring Dan Beck & John Rohrer, and videos!)
2. Greene, H. (2003). [Appreciating Rattlesnakes](#). *Wild Earth*, pp 28-32.
3. Noss, R. (2003). [Another Dead Diamondback](#), *Wild Earth*, pp 33-37
4. Bowden , B. (2003). [Snaketime](#). *Wild Earth*, pp 38-45

### For the Avid Learner:

1. Levin, T. (2016). *America's Snake: The Rise and Fall of the Timber Rattlesnake*. Chicago, IL. University of Chicago Press
2. Rubio, M. (1198). *Rattlesnake: Portrait of a Predator*. Smithsonian Institution Press
3. Greene, H. (200). *Snakes: The Evolution of Mystery in Nature*. Berkeley, CA. University of California Press