

People in Nature: Interactions on Mt Adams in a Warming Earth

Friends of Mt. Adams' Earth Day 2020 Community Seminar

Saturday April 25, 9:00 am to 4:00pm

Columbia High School Gymnasium

White Salmon, Washington

This marks the 50th year since the first Earth Day in 1970 and this Earth Day's theme is Climate Action. During climate change, what will happen to Mt Adams and those who depend on the mountain for their well-being, livelihood and lives? As the air continues to warm, by at least 2° C this century, it is predicted that the amount of precipitation will increase or at least stay the same. On Mt. Adams and other Cascade peaks, however, the precipitation will increasing fall as rain, not snow. These changes in climate will result in many changes on Mt Adams including a significantly reduced snowpack below—and a much earlier snow melt above—the 5,000 foot elevation. As a result, the snow will be gone earlier in the year leaving less snow-melt water to sustain the plants and animals downhill and downstream.

The Friends of Mt Adams Community Seminar will explore the impacts of these environmental changes on the biological communities that depend upon the mountain. The keynote speaker will be noted scholar, biologist, and writer Dr. Robert Michael Pyle. For 35 years, Dr. Pyle has been a full-time writer, biologist, teacher, and speaker. He has published hundreds of articles, essays, peer-reviewed papers, stories, and poems. His twenty-two books include *Wintergreen*, *Where Bigfoot Walks*, *Chasing Monarchs*, *Walking the High Ridge*, and *Mariposa Road: The First Butterfly Big Year*. A life-long lepidopterist, Dr. Pyle is co-coordinator of the Northwest Butterfly Survey. For his work on behalf of butterfly studies and conservation, he received the John Adams Comstock Award from the Lepidopterists' Society and a Distinguished Service Award from the Society for Conservation Biology. He is a Distinguished Alumnus of both the University of Washington and Yale University forestry schools, a Senior Fellow of the Spring Creek Project at Oregon State University, and one of seventeen Honorary Fellows of the Royal Entomological Society.

Lunch will be no-host and because time is limited: Please bring your own brown bag lunch.

Seminar Schedule

9:00—9:15 Bill Weiler Friends of Mt Adams Board - Welcome & announcements

~~9:15-9:35~~ — Convocation?

9:35-9:45 Bill Weiler - Introducing Darryl Lloyd

9:45—10:15 Darryl Lloyd, photographer, author and co-founder of Friends of Mt Adams introducing Dr. Pyle

10:15—11:15 From the Bridge of the Gods to the Brave New World: How Our Mountains Meet Change, and Go On

Keynote Speaker: Robert Michael Pyle, Ph.D.

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11:15—11:45 Climate change, snow, and water in the Cascade Mountains

Oriana Chegwiddden, Ph.D. Student, University of Washington

Oriana is a staff scientist and graduate student at the University of Washington where she uses computer models to extract meaningful stories about climate change and water. She also enjoys spending time in the Cascades and is proud to have climbed Washington's five tallest volcanoes.

Abstract: Oriana will discuss how the climate of the Cascade Mountains is likely to change over the 21st century. She will show graphics depicting how snowpack will change in the future, creeping up the slopes of our mountains. She will explain how changing snowpack will impact the streamflow in rivers draining the Cascades. She will also explain how these projected changes are of importance to a host of different stakeholders like water resources managers, tribal representatives, and farmers.

11:45 - 12:45 Lunch-Please bring your own brown-bag lunch

12:45—1:15 The Impact of Climate Change on Carnivores in the Cascade Mountains

Jocelyn Akins, Ph.D. Director, Cascade Carnivore Project

Jocelyn leads the Cascades Carnivore Project, a non-governmental organization based in Hood River, Oregon that conducts research and monitoring of rare montane and forest carnivores. Jocelyn received her Ph.D. in Conservation Genetics from the University of California Davis. She is expert on the Cascade red fox and will be presenting her research on the Cascade red fox and the wolverine.

Abstract: During the last century, the American West lost many of its carnivores across large swaths of the landscape. Some carnivores such as the fisher and the grey wolf were entirely eradicated from Washington. The effects of these reduced or extirpated populations have cascaded throughout ecosystems. Carnivore competitors, such as the coyote, have adapted and expanded their populations into novel habitats, threatening and competing with rare, mountain-specialized species. Today, many historical threats, such as overharvest and predator control programs, have been eliminated, and populations of rare carnivores are slowly recovering and recolonizing portions of their historical ranges. However, the vast landscapes that many carnivores require remain fragmented, and are rapidly being altered by climate change. Among those species most at-risk to contemporary environmental changes in the Pacific Northwest are the wolverine, Canada lynx, and Cascade red fox. These mesocarnivores are snow-adapted and therefore particularly sensitive to climate warming. Climate change is currently or is predicted to affect the habits of these montane species in myriad ways: low snow packs, increased rain in the mountains during winter, and the loss of subalpine parklands due to disease outbreaks in mature conifers and the ascension of timberline. We will discuss these interactions and the research currently being conducted to understand the role of climate in carnivore conservation.

1:15—1:45 Watersheds and Fish of Mt. Adams from a Bird and Fish Perspective

Pat Connolly, Ph.D. Stream Ecologist (retired) USGS, Columbia River Research Lab

Pat has worked in the fisheries field in the Pacific Northwest for over 35 years. Pat received his B.S. in Biology from Centre College of Kentucky, his M.S. in Zoology from University of Idaho, and his PhD in Fisheries Science from Oregon State University. He is recently retired, now Emeritus, from the US Geological Survey. Pat has conducted stream fish ecology studies throughout the Columbia River Basin and other stream systems in the western USA. A major focus of these studies has been to evaluate effectiveness of restoration actions and fish response, such as from stream improvement projects and dam removal. For his publications, see: https://www.usgs.gov/staff-profiles/patrick-connolly?qt-staff_profile_science_products=3#qt-staff_profile_science_products

Abstract: Pat will take a bird's eye and a fish eye view of Mt. Adams to understand the dynamics and ecological functions of the drainage network. The pathways of water gather to contribute to four major tributary watersheds of the Columbia River: the Klickitat, White Salmon, Lewis, and Cowlitz rivers. Each of these rivers provides unique opportunities for a diverse array of fish species. The fish species, in turn, have a high reliance on the mountain and its dynamic delivery of water, wood, sediment, nutrients, and food.

1:45—2:15 Elaine Harvey, Yakama Tribal member and Fisheries Biologist (invited) - Impacts on Tribal culture

2:15—2:30 Break

2:30—3:00 The influence of climate change on recreation and recreation-dependent economies

Eric M. White , Ph.D., Research Social Scientist Pacific Northwest Research Station, USDA Forest Service

Eric M. White is a Research Social Scientist with the Pacific Northwest Research Station of the USDA Forest Service. His research is focused on understanding recreation use on public lands and the economic effects on local communities, the social and economic outcomes from forest collaboration and restoration, and the ecological and social outcomes from collaborative natural resource management across landscapes of public and private ownerships.

Abstract: Connecting to nature through recreation is central to our culture and social fabric—here in the Columbia Gorge and across the Northwest. This presentation will explore how climate change is expected to influence recreation in the coming decades. We will consider how climate change can alter recreation behavior and review projections of future recreation in the Northwest and across the U.S. in a climate-changed environment. Beyond climate conditions, wildfire and other natural disturbances can change how and where people recreate. We will examine what scientific studies tell us about how recreationists respond to wildfire and smoke. Finally, we'll consider what changes in recreation behavior could mean to towns located around recreation destinations.

3:00 – 4:00 Panel with all seven speakers. Q & A.