

# Nature Trails

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Dry Falls, Grand Coulee. Photo by S. Burns

## **Cataclysms on the Columbia: The Great Missoula Floods**

**Scott Burns**

**Professor Emeritus of Engineering Geology  
Portland State University**

**Friday, 19 April 2019, 7:30 pm,  
Room 100 Willamette Hall, UO Campus**



Driving east through Missoula, Montana on I 90, you might notice a series of horizontal, parallel lines on the large hill to the southeast—the one with the big white M on it. The lines are especially evident in winter,

with a light snow on the hillside. This hill is Mt. Sentinel, and each one of those lines is the shoreline of an old lake. Not just one lake with several levels, but many individual lakes. Their source? Meltwater from massive glaciers. How we can say with certainty that there were many lakes in this one place and not just one lake whose level changed over time is a wonderful story. The sleuth who solved this mystery was a geologist, J Harlan Bretz, (his first name was just J) whose ideas were grounded in a classical education in geology. Through decades of painstaking field work Bretz had amassed conclusive evidence that a lake half the size of modern-day Lake Michigan had formed behind a massive ice dam at the southern tip of an ice-age glacier, and that when that dam was breached the lake's entire contents had emptied in a short time, perhaps a matter of days. He told the geological community that the consequences of this flood were of such a massive scale that they had been entirely overlooked. And, even more unsettling to his fellow geologists, was his conclusion that this doomsday scenario had happened *dozens of times* over a period of about 3000 years. When Bretz presented his theory in 1923 the entire community of geologists in the U.S. rose up as one to declare him a quack.

If you come to the ENHS April meeting you will hear Scott Burns unravel the threads that led Bretz finally to conclude that not all geologic events happen over eons—what we refer to as a geologic time scale. You will learn more about the connection between the repeated sudden release of 500 *cubic miles* of water and some of the grandest scenery in Oregon, several hundred miles west of that release point. You might even come away with a new understanding of why the Willamette Valley has such deep, rich soil, and why there are many rocks—even boulders—that appear to have been levitated from their original location hundreds of miles to the east and dropped by a huge hand at random locations in the Willamette Valley.

As was Bretz, Burns is also a geologist, which might explain at least in part his long-standing fascination with the Missoula Floods. In addition to his love of rocks Burns has a lot of personal interests. He runs, skis, hikes, swims, and plays golf, tennis and basketball. He has coached youth basketball teams. He and his wife Glenda have lived in Tualatin

for decades. His interests at the professional level are also widespread. Burns specializes in environmental and engineering geology, geomorphology, soils, and Quaternary geology. In Oregon, he has projects involving landslides and land use, environmental cleanup of service stations, slope stability, earthquake hazard mapping, Missoula Floods, paleosols, loess soil stratigraphy, radon generation from soils, the distribution of heavy metals and trace elements in Oregon soils, and alpine soil development. Also, perhaps because he and his family have lived in close proximity to the heart of Oregon Pinot noir country, for many years he has been studying wine and terroir – the relationship between wine, soils, geology and climate.

A sixth-generation Oregonian, Burns grew up in Beaverton. He has BS and MS degrees in chemistry from Stanford University. Chemists almost always do their work indoors, but Burns has always loved being out in nature, so the four courses in geology he took at Stanford were critical in determining his professional career. Geology became his passion—he got his PhD in geology from the University of Colorado, Boulder. He always wanted to be a teacher, and he has taught geology for almost 50 years, not only at Portland State but also at institutions in Switzerland, New Zealand, Washington, Colorado and Louisiana. He has numerous teaching awards that demonstrate how good a teacher he is. He is active in the Association of Engineering Geologists, Geological Society of America, National Association of Geology Teachers, and the Soil Science Society of America, and is a member of many other professional organizations. He has held a number of leadership positions, including past president of the Oregon Society of Soil Scientists and the Oregon Section of the Association of Engineering Geologists; national chair of the engineering geology division of the Geological Society of America in 1999-2000; national president of the Association of Engineering Geologists from 2002 – 2003; and president of the International Association of Engineering Geologists. He was chosen a fellow of the Geological Society of America in 2004 and was chosen a fellow with the Kellogg National Fellowship Program from 1990 – 1993. In 2011 Burns received two national awards in geology from the Geological Society of America — the Richard Jahns Distinguished Lecturer Award and the Public Outreach Award.

Scott and Marjorie Burns, both Professors at Portland State University, have recently rewritten a book, *Cataclysms on the Columbia: The Great Missoula Floods*. It was first published in 1986 by John Allen and Marjorie Burns, but Allen passed away 18 years ago, and Scott Burns has updated the

exciting additions at the science end of the story in this edition. Considered together, the Missoula Floods, which occurred between 15,000 and 18,000 years ago, are one of the greatest geological events ever to have occurred in North America. It will be an exciting evening when Burns tells the fascinating story of how J Harlen Bretz developed the theory of

the floods and the huge effect of these floods on the landscape of 16,000 square miles of the Pacific Northwest. Please join us at 7:30 pm on Friday, 19 April, to hear **Cataclysms on the Columbia: The Great Missoula Floods**, by Scott Burns.

John Carter

## Fox Trot

by Tom Titus

On a warm late winter afternoon, I was traveling along a local running trail when a small current of air from the north backhanded the right side of my face with the musky tang of fox urine. Late winter is breeding season for red foxes, and the males become particularly smelly. I confess to a small private conceit—I know the smell of fox urine. It is a less acrid version of skunk. Mostly I keep this knowledge to myself. It won't give me any claim to fame at the local pub. No one will nod in admiration and murmur, "Oh wise olfactory one."

My olfactory conceit began on a string of summer evenings four decades ago. Sunlight slanted and scattered through big cottonwoods as my buddy Ken and I carried fly rods to the McKenzie River to meet fat rainbows that slurped their evening meal of Little Yellow Stoneflies. We trespassed along a quarry road, then followed an old willow-lined river channel that had dried to a trickle. Every evening a red fox traveled just ahead. His slender dog prints dimpled the sandbars. We could smell his territorial leg-lifting. Where the old watercourse made a hard left turn, a basketball-size basalt cobble often glistened with fresh urine. One evening I was alone and made the turn at Urination Rock. A lithe and lusty red flame lit the blonde sandbar just ahead. The fox stopped, glanced back, dodged hard to the right, and disappeared into a dense band of willows. I never saw him again.

That forty-year-old memory hung with me as I trekked over that foxy smelling section of the trail. And there they were, a pair of foxes sunning only 30 yards from me. Here at the muddy end of a Willamette Valley winter, both of them were a little grubby. Their white chests and tail tips were dulled with dirt. Red foxes are usually monogamous, so these were probably mates that had been excavating a den in preparation for kits that would arrive in the next month or so. When I stopped, one of them rose and vanished into the brambles. The other remained curled in the midday warmth, peering through its wraparound bottlebrush tail.

Since that sighting, my running tribe has so often been graced by these foxes that we have named this

loop the Fox Trot. On one trot, I met local photographer Shannon Phifer who had her camera trained on a fox half-hidden by Armenian blackberries. She had been there a long time, waiting for the napping red dog to stand for a picture. Shannon travels frequently to photograph various wildlife. She is especially fond of foxes and often goes to an island in Washington State to photograph them. She told me a tale of introductions. In the late



Red fox. Photo by Shannon Phifer

1800s, European rabbits were introduced by people who likely used them as a food resource. When the rabbit population exploded and began denuding the island vegetation, red foxes were brought in to eat the rabbits. As Shannon began her story, I felt my insides tightening in anticipation of another sad tale of inbreeding similar to the wolves of Isle Royale. Although the details of the fox introduction aren't clear, it was likely a series of importations that included animals from a fur farm that had placed a premium on maintaining coat color diversity. The introduced foxes still display all the tints, tones, and tinges of the red fox repertoire, from standard red to silver-tipped black to mosaic. That sleeping fox never stood for Shannon. But her 2019 calendar of fox photos now hangs near our dining table.

The foxes in the area of the running path live out their vulpine lives on a covered landfill. There was no garbage service where I grew up, and in the 1960s and '70s we made regular trips to the "dump." We

and thousands of others thought nothing of hurling our waste into that huge pit of souring refuse and screeching gulls immediately adjacent to the Willamette River. In 1974 the dump was closed, covered, and planted over with grass. Large pipes were rammed through the soil to burn methane produced by the seething rot. A chip path was constructed around the perimeter of the dump. When I ran this trail on winter nights, the pipes sent up flaming blue wraiths to meet me in the foggy dark. The faux grassland created over years of refuse was a habitat opportunity for red foxes. Forty years later the methane torches are long dead, but the rusty flames of foxes still rise to meet us.

Surely foxes experience the range of canine emotions. But they have a huge advantage over humans—despair is not within their purview. When the pair denning on the dumpsite emerge from their heap of blackberry vines for an evening hunt, they do not whine to themselves “The world is dying, and our home is only a muddy hole beneath a pile of invasive

brambles on a thin skin of earth covering a toxic memory. There is no point in hunting tonight.” Rather, they will lope into the gloomy immediacy of a March night pulsing with warm-blooded sustenance: soft voles the shape of oblong river cobbles, a nutria grazing too far from water, perhaps a sleeping mallard or unguarded gosling. They will bend to the task of feeding themselves and eventually their kits. They will feel the solid ground covering an old dump, keen to this damaged earth still squirming with possibility.

Several weeks after that startling February snow that fell like white wet concrete, I ventured onto the Fox Trot. The brambles sheltering the fox lair lay flat to the ground, pressed down by a litter of broken hardwood branches. The foxes were nowhere to be seen. I allowed myself to entertain the worst. Then a faint breeze whispered by, and the thinnest slice of not-quite-skunk found my nose. For a trifle of a moment, I celebrated resilience.

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### **Routine Joys** by August Jackson

As winter gives way to spring for good, I begin to make my rounds again. For the past several years I have visited five or six sites across the region annually or nearly so, and each on the same weekend every time. It began unintentionally, making use of holiday weekends or visits to family, but I began to find these return trips an edifying experience that expanded my understanding of ecology and wedded me to each place so that I now make room for a visit every year.

Part of the thrill of visiting the same places annually is simply to see whether or not expectations are met. For each location, there is a suite of species that I know will be engaged in the same behavior, or in the same phenological state, except in the most extreme years: I can expect an uncommon parasitic bee to nectar on horsemint in my campsite at one location, and I can expect several echo blue butterflies to spend an hour lapping the salt from my sandaled feet as I read a book in the late afternoon along the Metolius River. Even more thrilling is the interannual variability in species composition and abundance that reflects vibrant and dynamic ecosystem processes: a sudden abundance of western sculptured pine borers and White-headed Woodpeckers after two years of drought in the pine forests of Central Oregon or an irruption of California tortoiseshells using a morning break in the prevailing winds to spiral up and over draws and gorges on their migration westward.

The last weekend of March is reserved for Catherine Creek—an expanse of upland prairie

interspersed with oak and pine savanna and woodlands on the eastern end of the Columbia River Gorge in Washington. Here I know I’ll be greeted by the ethereal song of Western Meadowlarks the moment I open my car door, in spite of the fact that this place has become overrun with people and their dogs like so many others in the region. Further up the



*Lasogrossum on romanum.*  
Photo by A. Jackson

slope I can expect to watch yellow-faced bumblebee queens darting erratically between patches of Gray’s lomatium, eyes to the ground as they inspect vacant rodent burrows for a suitable location to establish a nest. Other expectations will not be met this year, as two feet of snow still covered the ground at the end of the first week of March. Only three weeks later, the wildflower bloom is still dramatic, but about two weeks behind average and a good month behind where it was following the warm and dry winter of 2015.

We know that plant communities shift over time, and so much so that many of the plant associations that seem relatively fixed today often looked quite different at the start of the Holocene. But interannual variability is equally interesting and its importance attenuated by the implications of a changing climate and the potential for phenological mismatch. While the plant community remains the same in the strictest sense, a month's difference in average bloom time equates to a truly different plant community for an insect with a four- to six-week flight period. And though the incorrigible early-bloomers like grass widows, Gray's lomatium, and prairie stars are ever-present, buttercups, camas, and delphiniums are a bit less eager and may or may not make a co-appearance. This suggests a degree of lability in plant-pollinator relationships that may underpin a greater level of resilience in these vernal communities than is often appreciated.

In recent years, plant-pollinator networks have become a common way to visualize and analyze

these relationships, with the somewhat predictable outcome that greater biodiversity of plants and pollinators increases community resilience to species loss. Perhaps more interestingly, greater biodiversity also leads to more effective and efficient pollination through the reduction of direct interspecies competition over resources as each pollinator species becomes more faithful to a certain subset of plants in a community as a means of competition avoidance. There can be little doubt that interannual variability in early spring communities considerably alters these relationships on a fairly regular basis. This is a hopeful idea, intimating that a built-in flexibility in mutualist relationships might protect against potential phenological mismatch wrought by climate change. But it's unknowable without a good long-term study, the likes of which tend to be unsexy and unfundable. In the meantime, I'll keep returning and keep wondering.

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There are three slots left in the ENHS Field Trip to the Siskiyou Field Institute on 7-9 June 2019. The full announcement can be found on our website or in last month's Nature Trails. If you want to go, decide which sleeping arrangement you want, then contact Kim Wollter ([kwollter@comcast.net](mailto:kwollter@comcast.net), 541-484-4477) to reserve space before sending a check. Send a check for the total amount, made out to **Eugene Natural History Society**, to Kim at 3550 Mill St., Eugene 97405. **Please include your email address and phone number.** The trip will be limited to 20 people. We will maintain a waiting list if necessary. **All accommodations are on a first-paid, first-served basis. Your check must be RECEIVED by 26 April.**

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### Events of Interest in the Community

#### McKenzie River Trust

**Wednesday, 17 April, 9:30 am – 12:30 pm. Watershed Wednesdays at Creswell Butte.** Creswell Butte contains 72 acres of mixed habitats including open to closed woodland, brush-dominated areas and brush-encroached savanna. Across the property, native species including Oregon white oak and Douglas fir, and lesser amounts of incense cedar, black cottonwood, Pacific madrone, Pacific dogwood, Oregon ash, and grand fir dominate the canopy. Help to protect this woodland by removing invasive species. Go to <https://www.mckenzieriver.org/events/list/watershed-wednesdays-creswellbutte/> for a map and to register.

**Friday, 26 April, 10 am – 12 pm. Ethnobotany Tour of Waite Ranch.** Join McKenzie River Trust (MRT), the [Siuslaw Watershed Council](#) and Ashley Russell for an ethnobotany tour at [Waite Ranch](#). Russell is the Water Protection Specialist for the Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians. She is a Coos (Miluk) Tribal Member and an Oregon State University (OSU) graduate in Environmental Sciences with an emphasis on Fisheries and Wildlife Science. Russell mainly monitors water quality on Tribal lands and helps coordinate restoration efforts. She also assists with environmental assessments for newly acquired properties. She is recognized for her knowledge of culturally significant species, including Tribal first foods and weaving materials. Waite Ranch is about 3 miles from Florence, just east of the Cushman Bridge between Hwy. 126 and the Siuslaw River. Historically, the property was a tidal estuary made up of mudflats, marsh, tidal swamp, riparian forest, and possibly crabapple swamp (the rarest of estuarine plant communities). The property was homesteaded around the turn of the century when it was diked. It then became a dairy farm. In 2010 MRT bought the Waite property intending to restore it to its historic ecological state as a tidal wetland by re-establishing full tidal exchange to the property. MRT has partnered with the Siuslaw Watershed Council to manage Waite Ranch's restoration. Go to <https://www.mckenzieriver.org/events/list/ethnobotany-tour/> for a map and to register.

**Saturday, 27 April, 9:30 am – 12 pm. The Great Scot's Broom Pull on Green Island.** Go to <https://www.mckenzieriver.org/events/list/the-great-scots-broom-pull-on-green-island/> for a map and to register.

### **Lane County Audubon Society**

**Saturday, 20 April, 8 am. Third Saturday Bird Walk.** Don Holtgrieve will lead a walk through some of the property managed by the MacKenzie River Trust. Details will be posted on the LCAS Facebook page: [facebook.com/pages/Lane-County-Audubon-Society/330177413824](https://facebook.com/pages/Lane-County-Audubon-Society/330177413824), and on the website: [laneaudubon.org](http://laneaudubon.org).

**Tuesday, 23 April, 7:30 pm. Noah Strycker: Birds of the Photo Ark.** In 2018, Strycker and Joel Sartore, acclaimed National Geographic photographer, teamed up to feature beautiful, exotic, and threatened birds in a lush portfolio published by National Geographic. Strycker provided the text for Birds of the Photo Ark, while Sartore provided the photos. This new way of looking at birds allows readers to encounter each bird face to face, in formal studio portraits. This presentation will be held in the UO's Lawrence Hall, Room 177, instead of our usual Eugene Garden Club location.

**Mt. Pisgah Arboretum** (all these MPA events will occur rain or shine; meet at the Arboretum Visitor Center and don't forget your parking pass.)

**Sunday, 14 April, 8 – 11 am. Bird Walk.** Join Joni Dawning and Julia Siporin for another monthly bird walk intended for people with all levels of birding experience. We'll use vocalizations, habitat, and behavior clues for identification of our spring migrants and year-round residents. Come discover the Arboretum's avian diversity. Please bring binoculars. Option to continue the walk until noon for those who are interested. \$5, members free.

**Saturday, 20 April 10 am – 12 pm. Ethnobotany Walk.** How did indigenous residents of the Willamette Valley view the flora? What four plants at Mount Pisgah make the "top ten" for the greatest number of uses by American indigenous peoples with over a hundred uses each? What plant saved the lives of miners? Join us as we answer such questions in an easy walk exploring the lure and lore of plants at Mount Pisgah. Led by anthropologist Madronna Holden. \$5, members free.

**Saturday, 27 April, 10 am – 12:30 pm. Birds, Bees, Butterflies, and Blooms Walk.** Join local ecologists Peg Boulay and Bruce Newhouse in enjoying the vibrant spring life at the Arboretum. Peg and Bruce will identify and talk about flowers and trees, birds and bees, and anything else you please! We'll also be participating in City Nature Challenge (CNC) this year! Anyone interested in iNaturalist and the CNC will be invited to take photographs along the walk. Afterward, for those interested, we'll spend a half hour or so on a briefing of what the CNC is, and upload our photos to iNaturalist! Advance prep: download the iNaturalist app to your phone, and test it by uploading a backyard observation of a flower (which you can delete later). Co-sponsored with the Native Plant Society of Oregon-Emerald Chapter. \$5, members free.

### **Friends of Buford Park and Mt. Pisgah**

**Monday Morning Regulars. 9 am-12 pm.** Contact [volunteer@bufordpark.org](mailto:volunteer@bufordpark.org) for more information.

**Tuesdays and Thursdays Nursery Work. 9 am-12 pm.** Meet and work at the Native Plant Nursery at Buford Park. Enter Buford Park from Seavey Loop Road. Turn LEFT after crossing the bridge and drive 1/4 mile to the nursery.

### **WREN (Willamette Resources and Educational Network)**

**Tuesday, 9 April, 9 – 11 am. Wetland Wander.** Join David Walp in an exploration of Willow Creek's native grasslands, ash woodlands and perennial streams. Walp is a local naturalist, expert animal tracker, and trapper. We will be identifying animal signs and doing some tracking in this special site. Willow Creek has some of the best remaining examples of native wet prairie habitats in the southern Willamette Valley. Parking is at the end of Rathbone Road, which is a one-lane gravel road. At the end of Rathbone, go through the gate and park in the gravel areas near the dumpster.

**Friday, 26 April, 11:30 am – 12:30 pm. City Nature Challenge BioBlitz at Stewart Pond.** WREN and the BLM will be co-hosting a bioblitz at Stewart Pond as part of The City Nature Challenge; an international effort to find and document wildlife in cities across the globe. In a bioblitz, community residents contribute to biodiversity science by making and recording observations, from butterflies to backyard weeds. For our blitz, we will use the iNaturalist app and platform. iNaturalist will share our findings with scientific data repositories like the Global Biodiversity Information Facility to help scientists find and use our data. In the City Nature Challenge, cities compete to see who can make the most observations of nature, who can find the most species, and who can engage the most people. Participants are encouraged to download the iNaturalist app ahead of time. We will be uploading our findings to the City Nature Challenge Eugene Springfield site. More information about the app and the free download to your phone can be found here: <https://www.inaturalist.org/>. No experience is necessary to participate, and all ages are welcome. Field experts will be available for guidance. Refreshments will be provided, compliments of our sponsors: KIND Snacks, Brew Dr. Kombucha, and Glory Bee.

### **The University of Oregon's Museum of Natural and Cultural History**

Go to <https://natural-history.uoregon.edu/education-and-events/calendar> for a list of March events.

**Current Exhibits:** OREGON – WHERE PAST IS PRESENT; EXPLORE OREGON; THE COLUMBIAN MAMMOTHS, and AR-TI-FACT. Exhibit hours: Tuesdays – Sundays 11 am – 5 pm.

**Tuesdays through Sundays at 2 pm.** Enhance your visit to the Museum of Natural and Cultural History with a talk and exhibit tour. Perfect for solo visitors, couples, or small groups, 2 pm Walk & Talks are included with the price of admission. Topics range from the geology of the Cascades to Oregon's dynamic cultural heritage. Call 541-346-3024 to find out what we're talking about today.

**Wednesday, 17 April, 3:30 – 4:30 pm. Anthropology Colloquium: Approaches and Challenges in Cultural Heritage.** What's happening in the world of cultural heritage research? Find out at this public event hosted by the University of Oregon's Museum of Natural and Cultural History and Department of Anthropology. Explore recent and current projects by students, faculty, and museum scientists—and join in a panel discussion about the future of the field. Included with regular admission;

admission is free for UO ID card holders and museum members. Oregon Trail card holders are admitted at a reduced rate through the Museums for All program.

**Saturday, 27 April, 11 am – 1:30 pm. Science Saturday! STEM Family Fun at the Museum.** Join us for Science Saturday and dig into family-friendly activities that will spark your child's curiosity for science, technology, engineering, and math (STEM). This Saturday is all about ancient animals. Come discover the amazing diversity of Oregon's animals over the millennia. A drop-in event, Science Saturday is perfect for children ages three and up with an accompanying adult, and it's included with regular admission. Admission is free for MNCH members. Oregon Trail card holders are admitted at a reduced rate through the Museums for All program.

#### **Native Plant Society of Oregon, Emerald Chapter**

**Monday, 15 April, 7 pm. The rare peacock larkspur.** Esther McEvoy will report on the latest conservation efforts targeting the WillametteValley endemic peacock larkspur (*Delphinium pavonaceum*). Our chapter meets the third Monday of the month at 7 pm through April, at the Amazon Community Center. For more information visit us at <http://emerald.npsoregon.org>.

#### **Nearby Nature**

**Saturday, 20 April, 9 am – 12 pm. SOLVE IT for Earth Day: Alton Baker Park Cleanup.** In honor of Earth Day, Nearby Nature is once again partnering with SOLVE for an annual cleanup of Alton Baker Park. And this year we've joined forces with Willamette Riverkeeper to participate in the larger community effort, Clean Water for Great Brews. Each volunteer will receive a punch card good for 12 free drinks at local coffee shops or breweries in Eugene and Springfield.

**Saturday, 27 April, 9 am – 4 pm. Learnscape Bioblitz.** The world around us is teeming with life! Come take a closer look at this web of life by participating in a bioblitz of Nearby Nature's Learnscape and surrounding areas of Alton Baker Park. Volunteers of all ages will take photos of different plants, animals, insects, and fungi and upload them to iNaturalist for identification and a final species count.

**Saturday, 27 April, 10 am – 12 pm. Nearby Nature Quest: Wow Newts!** Join us for our 4th annual newt count! Learn all about newts from naturalist Tom Titus as we count these cool critters in Tugman Park's creek. Meet at the picnic shelter. Nearby Nature members free, non-members \$5/family. Pre-register online <https://www.nearbynature.org/programs/> or call us at 541-687-9699. Register now.

**Friday, 3 May, 8:30 am – 3 pm. No School Day Adventure: Trees and Bees at Hendricks Park.** Explore off the beaten path as we discover new trails and cool hiding spots in the Hendricks Park forest. Play mini-gnome hide and seek and look for the tallest, widest, and weirdest trees in the forest. Explore the rhododendron garden as well and learn how to dissect a flower, do a bee dance, and create rainbow Earth Art! \$45 members/\$50 non-members. Scholarships available. Ages 6-9, max 12 kids. Outdoors in Hendricks Park. Register online or call 541-687-9699, ext. 2.

#### **North American Butterfly Association, Oregon (Eugene/Springfield) Chapter**

For information on upcoming events go to <https://www.naba.org/chapters/nabaes/>

The Eugene Natural History Society meets on the third Friday of the month September through May except in December when the meeting is on the second Friday. Meeting time is 7:30 pm and our standard meeting location is room 100 Willamette Hall on the University of Oregon Campus. Any temporary changes will be noted in the newsletter for the current meeting and on our website:

<https://pages.uoregon.edu/enhs/>

The May meeting is our annual Business Meeting. Members will be asked to vote on whether to accept the slate of officers and at-large Board members.



Rooster rock in Columbia River Gorge. Photo by Scott

### **ENHS. Officers and Board Members 2017-2018**

President: Dean Walton <mailto:dpwalton@uoregon.edu> 541-346-2871

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Website Webmaster: Tim Godsil, [tgodsil@uoregon.edu](mailto:tgodsil@uoregon.edu)

Nature Trails: Editor: John Carter, [jvernoncarter@comcast.net](mailto:jvernoncarter@comcast.net); Support Staff: Ruth BreMiller and Reida Kimmel.

### **2018-2019 Speakers and Titles**

19 Apr.

Scott Burns

**Cataclysms on the Columbia: The Great Missoula Floods**

17 May

Vanessa Petro

**How Busy are Beavers in Oregon?**