

# Nature Trails

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The Eugene Natural History Society is based out of the traditional homelands of the Kalapuya peoples who stewarded this land for millennia. Today most Kalapuya people are citizens of the Confederated Tribes of Grand Ronde and the Confederated Tribes of Siletz Indians and continue to play an active role in local communities and in the stewardship of this land.



View of Lake Abert from Abert Rim, 2018. *Ron Larson*

## A Natural History of Oregon's Lake Abert in the Northwest Great Basin Landscape

**Ron Larson**

**Oregon Lakes Association, Klamath Falls, Oregon**

**Friday, 15 March 2024, 7:00 pm**

**This month's meeting will be a hybrid of in person and real-time Zoom.** The in-person lecture will be held **at our new time and room: 7:00 in 221 Allen Hall, University of Oregon campus.** The Zoom lecture link is <https://zoom.us/j/97499095971?pwd=eE9sdG9hSHMvOHhIUeJU21wT20rdz09> or see our website at <https://eugenenaturalhistorysociety.org/>

## This Month's Speaker: Ron Larson



This month, we welcome back Ron Larson. He joined us in 2018 to talk about his research on Lake Abert in southcentral Oregon's Great Basin country. This blurb about Ron's background is from the May 2018 issue of *Nature Trails* (by John Carter):

Growing up in Newport, Oregon, Ron Larson spent lots of time along the shore and in the hills and coastal forests. This freedom to explore was great training for becoming a natural historian. Larson's education took its direction from this interest. After obtaining a B.S. degree in invertebrate zoology at Oregon State University, he was forced to take a break when he was drafted into military service. When he returned to civilian life, Ron landed a job at the Smithsonian Institution. After 2 years, he left to attend the University of Puerto Rico, where he obtained an M.S. degree in marine biology, doing research on marine jellies. Although he returned to the Smithsonian and continued his work in the Department of Invertebrate Zoology, he and his wife Kathy wanted to return to the west, so he enrolled at the University of Victoria in British Columbia, where he got his Ph.D. degree working on plankton in the nearby fjords. After a postdoctoral position at the Harbor Branch Oceanographic Institute in Florida, Ron started moving west again with the U.S. Fish and Wildlife Service, first Georgia, then Mississippi, and finally Klamath Falls. He has been studying the Lake Abert system since 2008.

Ron's talk in 2018 focused on the natural history of Oregon's only hypersaline lake and included beautiful photographs and videos of birds and the lake's landscape. At the time, he was concerned about the viability of this imperiled ecosystem and the effect of changes on the migratory waterbirds that arrive there every summer to feast on the abundant invertebrates. Very low water levels in the lake in 2015 caused salinities to drastically increase to about 5 times

that of the ocean, resulting in disastrous impacts—e.g., invertebrate die-offs and dramatic declines in numbers of birds using the lake.

I've known Ron for over 40 years. He was one of my husband's favorite friends. In the 70s, they had adventures while working for the National Park Service and the Smithsonian Institution, the latter including a road trip to Belize. Over the years, I've been impressed by Ron's knowledge of the natural environment and the variety of his interests, from the marine ecosystem (particularly the open ocean) to the marshes of the Klamath Basin and the dry environs of the Great Basin. Now I can say that I'm impressed with the breadth, thoroughness, and readability of his new book, *A Natural History of Oregon's Lake Abert in the Northwest Great Basin Landscape*.

Ron will share with us his striking photos and videos and his concerns about the future of Lake Abert. His book includes information on the geological processes that formed the Great Basin and Lake Abert, such as Basin and Range faulting, desert varnish, desert pavements, patterned ground, and moving rocks. He also discusses the lake's physical processes, such as how a salt lake is created, storm surges, desiccation polygons, and tufa, a type of rock made in water. The ecology of the lake is complex, and the brine shrimp and alkali flies are a vital food source for migratory birds. An impressive array of lichens is conspicuous on boulders surrounding the lake, and the wetland and upland plants (including a variety of sagebrush species) are adapted to the high desert climate. The wildlife—from scorpions to bighorn sheep and especially birds—have evolved to survive the harsh conditions around the lake and the high-desert uplands. The birdlife is particularly amazing, where tens to hundreds of thousands of migratory shorebirds such as avocets, stilts, and phalaropes come to the lake to feed prior to their long-distant migrations, with some birds flying as far south as Tierra del Fuego.

Archaeological investigations are another part of the Lake Abert story. Fascinating evidence has been found of indigenous peoples, the Chewaucanians, who lived along the lake shore more than 3,000 years ago and then disappeared about 500 years ago. Findings



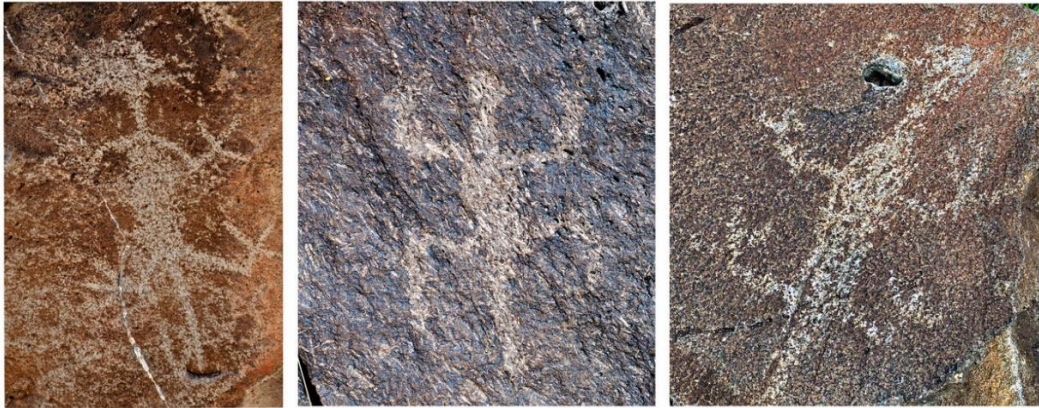
suggest that the lake was less salty then and that fish and other aquatic resources were likely critical to the survival of these people, who may have been severely affected by drought.

Ron's book and his talk will show us why Lake Abert is so extraordinary, both culturally and ecologically, that it urgently needs our ongoing attention so that it remains an essential part of the Great Basin ecosystem. Ron continues to be involved with studies and conservation of the lake through the Oregon Lakes Association

and the newly formed Partnership for Lake Abert and the Chewaucan.

Please join us on Friday, 15 March, at 7 pm in 221 Allen Hall on the University of Oregon campus to hear Ron Larson speak on "A Natural History of Oregon's Lake Abert in the Northwest Great Basin Landscape."—Monica Farris

The Zoom lecture can be accessed at <https://zoom.us/j/97499095971?pwd=eE9sdG9hSHMvOHhIUEJuU21wT20rdz09>



Petroglyphs from Lake Abert. Ron Larson

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## What Is This? The Mysteries of the Everyday

by Melissa Hart

At first, we mistake the bronze balloons for bags tangled around low-hanging branches on Coyote Creek. Our 7-year-old daughter leans out of her kayak. "Trash," she concludes. I lift a branch holding one of the oblong sacs. It snaps, and the thing plops into the water. Maia scoops it into her bug net. It's not trash; we stare at a mysterious translucent thing with star-like patterns embedded in its membrane. In 14 years in Oregon, I've never seen anything like it. I pull out my smartphone. My caption on Facebook: "What *IS* this?"

My husband moved here from New York 15 years ago; I came from California. We're not unusual. In 2014, according to United Van Lines, more Americans moved to Oregon than to any other state. Jonathan and I bonded over our shared fascination with the Cooper's hawks that shrieked through the forest between his apartment and my bungalow. We were happiest outside, shivering or sweating, soaked with rain or river water.

At *Darlingtonia* State Natural Site, we paced wooden walkways between tall, yellow-leafed

masses of *Darlingtonia californica*. "Cobra lilies," I read. "Insects fly into the plant's hood and slide down the stalks. The plant digests them. Yikes."

We married among Douglas-firs then added a child to our exploration team. We braved coastal windstorms to study the sea stack called Face Rock. I read the Coquille Tribe's legend aloud. Maia frowned. "How could a sea god turn the princess and her raccoons to stone?" "It's a legend," I said. "Not true." Though I wondered, given the rock's resemblance to the upturned, imploring face of a woman.

"What are these?" Among sea stacks, Jonathan examined dozens of finned aquamarine discs. "By-the-wind sailors," I read in my guidebook. "They float on the ocean. Wind blows them onto beaches." We rejoiced in the knowledge that individuals are either right-finned or left-finned and chanted their Latin name: "*Velevella velevella*, you're a hell of a fella."

But then we grew bored. "We've lived here a decade," we told friends. "So move your couch," one advised. "Take a vacation." Instead, we sold our couch, packed our belongings, and moved to Costa Rica.

In Costa Rica, nature isn't subtle. Iguanas and monkeys festoon branches; wonders declare themselves outright. We snorkeled with octopus and stingrays. I saw a tapir. Maia found leaf-cutter ants; the parade of tiny bodies brandished leaf fragments aloft like flags. We didn't miss Oregon.

Outside Maia's new kindergarten, students and parents pointed into the trees at a long hairy creature. "What is it?" I asked the teacher. "*Oso hormiguero*," she replied. "An anteater." Along with monkeys howling at dawn and the blue undulation of morpho butterflies, we made mundane discoveries: how to make money, where to live. We missed our family and friends.

"I miss oak savannahs," Jonathan said, navigating our rickety jeep down a jungle-bordered dirt road. "I miss the seasons," I said. "I even miss the rain." On a beachside boardwalk, we navigated snow cone carts, bicycles, kids selling puppies. We stepped across a bridge and discovered an open-air restaurant covered in Oregon Ducks flags. "What is this?" I studied the tourists and Ticos. The expat owner hailed from Eugene. We sat under green-and-yellow flags and looked at each other over fish tacos. "It's time," we agreed, "to return to Oregon."

Once again, our Honda is stuffed with camping gear. In the Wallowa Mountains, we marvel at tiny pink wildflowers. On a coastal hike, we find *Amanita muscaria*, hallucinogenic red mushrooms with white spots. Our consciousness feels altered enough by the sight of the rough-skinned newts below them. "Newts," I read, "smell their way back to their birth-river at mating time. Males grow rough patches on their feet to embrace females. They rub their snouts together." I rub my nose along Jonathan's. Maia giggles and scampers toward the beach.

Another day, at a river confluence, a silver flash leaps upward. "What is that?" she yelps. The migrating salmon hurl themselves up boulders, heading for their hatching ground, using the earth's magnetic field like a map.

We visit the carnivorous plants at the *Darlingtonia* site. Maia wanders the path between thousands of fork-tongued stalks. Suddenly, a man runs over. "Bear!" he pants. "Ran across the highway ... headed this way." Just when you think you've seen it all, Oregon surprises. Mystery and discovery sharpen our minds, engage our senses, confirm that wonder still exists.

At Coyote Creek, we cut open the bronze sac and find gelatinous goo. No one responds to my Facebook query. Later, I meet a biologist from Philadelphia. "Bryozoan colony," he says. "Moss animals. Those star-shaped things on the outside? Zooids—individual creatures." "What're they doing on the creek?" "No idea." We grin at each other, thrilled by what we don't know about our adopted homeland.

So much to discover, still.



Bryozoan colony. Lisa Miller

(This article first appeared in *High Country News*, December 2015)

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## Petrified

by Tom Titus

I was relaxing on the back patio of my childhood home, legs outstretched, listening to Pacific chorus frogs singing under a platinum moon. My son and his family were moving from here into a place of their own. The moon shadows were long on the backyard lawn. Beyond this, the back pasture stretched away toward a ghostly barn then gave way to a steep

hillside dark with Douglas-fir. My body rested while my mind tried to absorb the imminent loss of this place that had formed me. Sitting here alone on a full moon night, I found that things no longer seen became visible.

Until a few weeks ago, the muddy space between the garage and patio where I sat had been occupied by a fossil stump roughly the size of a steamer trunk. The next-door neighbor kid

and I used to rockhound along an eroded skid road that switchbacked up the hill. The track was poorly constructed and was in a constant state of erosion during the rainy season. Occasionally we'd happen onto a piece of petrified wood. Our laconic diagnosis was simply *petrified* rather than *petrified wood*. This truncation saved unnecessary syllables. When we were maybe 10 years old, we found ourselves at the foot of an old mudslide in the trees beyond the back margin of the pasture. A rock that seemed about the size of a loaf of bread was visible on the surface. My friend brushed his hand across the face of it. In near disbelief, we exclaimed *petrified!* We dug around it with our hands, but the wood-gone-to-rock went ever deeper. We brought picks and shovels up from the house and spent most of that summer digging it out. When we finally dislodged the stone from the surrounding soil, Dad brought up his 1952 Ford pickup. We dragged and rolled the behemoth onto a pair of 2 × 12's, chained the planks to the bumper, and skidded the load to the house.

For nearly 6 decades the stone stump rested next to the back patio, adorned by Mom's various landscaping plants and a creeping scourge of English ivy. The topography of this hunk of preserved wood is complex. The top has weathered into dark gray and has a flat surface with an oblong hole about 2 × 3 inches. Inside the cavity are several bulging knots of crystal with individual grains the size of course table salt. I've always wondered how deep into the rock those crystalline structures go. Further down on the outside, the colors swirl into a range of browns: khaki, cocoa, chestnut, and burnt umber. The wood grain weaves gracefully down toward the base, which flares at the bottom. At one point the descent is interrupted by a cinnamon gash that runs at a 45-degree angle and looks like a region of decay. The stone feels like a microcosm of the Grand Canyon.

Lately, I've been wondering how deep into time the roots reach. Petrification is more nuanced than a pair of rockhounding kids could have imagined. For starters, turning wood to stone requires immediate burial to exclude the oxygen necessary for organisms that cause decay. Once buried, mineral-rich water invades the spaces within the plant cells. A process called permineralization begins. The dissolved

minerals, often silica, precipitate inside the cells. Thus, the knots of crystal bulging at the top of the stump are probably silica, which makes them quartz.

This rock that was once a stump that was once a tree was once a part of an ancient forest. Higher on the dark ridge rising toward the full moon, the geology is volcanic and originated from ash and basalt flows during the Oligocene uplift and eruptions of the early western Cascades. Toward the foot of the ridge where the fossil was found, the rocks could be contemporaneous with the Wallace Creek Formation on the north side of this same ridge. These rocks are upper Oligocene (ca. 25 million years ago) and are also of volcanic origin. The Wallace Creek Formation includes evidence of lahars (volcanic mudflows) and deposits from hillside outwashes. All of this makes me think of catastrophic burial of an entire forest. The Oligocene was a time of global climate transition from tropical to cooler and drier conditions. The Willamette Valley was a stormy coastline transitioning into a brackish embayment. A decline in tree diversity marked the end of the Eocene, but diversity rebounded during the Oligocene. The giant fossil that my friend and I extracted from the foot of the mudslide was once a large tree, and candidate species are numerous; maples, oaks, hickories, *Metasequoia*, cedars, and redwoods were all there. Someday I'll find a person who can identify this piece.

That forest of eons ago works its way into my mind. I wonder how Oligocene sunlight scattered through the canopy leaves or how onshore winds bent the limbs into song. Giant salamanders (*Dicamptodon*) might have lumbered along the forest floor. Would my nose have found the same strong odor of decaying needles and leaves as it does in our current forests? I am left to imagine how that forest died. Because the stump is large and petrification requires quick burial, death was likely sudden. Whatever the cause, the stump stands in testimony to cataclysmic forces punctuating the vast reaches of geological time. We were powerless then by our absence. We are powerless now in our smallness.

In my smallness I gazed out at the hillside looming quietly in the moonlight. Mom and Dad are gone. No one in my family wants this place,



so we are selling the house and property. Although I'm trying to shed feelings of ownership, I'm having trouble letting go of this petrified testament to recent and ancient history. One of my three brothers roused me out of indecision, insisting that I transport the fossil stump to my house in Eugene. Fortunately, he is also the one who lives closest and likes challenges. We dug the rock loose from 6 inches of late winter mud and then rolled it onto a pallet. We anchored a cable winch to the hitch of Dad's big pickup and slid the monstrosity out to the edge of the driveway. There it lay, tipped on its side, truncated roots facing out as if sulking and daring us to take it further from home.

My good fortune in life includes a large and loving family, some of whom have access to appropriate equipment. Fond memories cement our extended family—and make it easier to ask for favors. I called my cousin who owns a heavy-duty pickup with a hydraulic lift gate. When we were kids, he and his sisters often stayed for extended visits at our place. My cuz and I easily rolled the rock onto the lift gate (I swear I heard it grumble when we slid it into the pickup bed) and drove it to southeast Eugene. Unloading wasn't so straightforward. We leveled the lift gate with the front garden bed where the rock would be placed, winched it awkwardly out of the truck, and were able to place it with roots down and the photogenic side facing the sidewalk. It wasn't quite right. My cousin offered to call in a favor from a friend with a small backhoe. About then my neighbor across the street joined in the "fun." We grunted, sweated, and cursed that half-ton of wood-gone-to-stone more or less into place. When my middle finger was crushed between the fossil and the cement garden wall, I swore hard. My purpling middle fingernail became an extended obscenity. The hulking stump still isn't perfectly

positioned, but as my students were quick to remind me over the years, 90% is an A. There may yet be a backhoe in my future.



Petrified stump. Tom Titus

From the farm pond, my ears find a lone chorus frog letting out an exploratory *creak*. *Is anyone still here?* he seemed to ask. My son and family are moving. Mom's little black cat, who has known only this place for most of her life, is moving with them. The fossil stump has moved. And now I must move. A drift of melancholy mixed with gratitude drifted in on cooling moonlit air. While I need to make my peace with this place becoming something else to someone else in the future, I've decided to aspire to fossilization. I'm already permineralized. The minerals from this place have seeped into my cells from decades spent eating from Mom's garden and drinking from the well. I have become an animate monument to this erosional terrace above the McKenzie River and a hillside that occasionally breaks loose to reveal stone relics of an Oligocene woodland. Maybe someone can scatter part of me here with Mom and Dad. Maybe a handful of my minerals will be hanging around in 30 million years. Maybe they'll find their way into a fossil.

#### ENHS FIELD TRIP TO MALHEUR NATIONAL WILDLIFE REFUGE

Thursday–Sunday, 30 May–2 June, 2024

The Spring 2024 ENHS field trip will be to the Malheur Field Station, where we will enjoy world-class bird watching on the Refuge, at the field station, and at the Refuge headquarters. **Cost:** Lodging (3 nights) plus meals (Friday breakfast–Sunday lunch) is \$200 per person. **To participate:** Make a check out to the Eugene Natural History Society and mail it to John Carter, 2080 Shields Ave, Eugene, OR 97405. Provide participant name(s), cell phone numbers, snail mail addresses, and e-mail addresses. **Space limited to 20 participants. Payment must be received before the name(s) can be added to the participant list. All payments must be received by 30 April.** For more information, see the ENHS website or contact John Carter at 541-221-6237, [jvernoncarter@comcast.net](mailto:jvernoncarter@comcast.net)

## Upcoming Events

(for complete listings and details, see individual websites)

- **McKenzie River Trust** <https://mckenzieriver.org/events/#event-listings> or 541-345-2799  
**Wednesdays, 13, 20, 27 Mar., 9–11:30am. Watershed Wednesdays at Green Island.** Projects include invasive species removal, habitat care, planting, and tree establishment. [Sign up](#)  
**Wednesday, 17 Mar., 7:30–9pm. Upstream: An Evening with David James Duncan.** Join author and river advocate Duncan and MRT. Jaqua Concert Hall, The Shedd Institute, Eugene. \$15. Purchase tickets online or at the Shedd.  
**Friday, 5 Apr., 9:30am. First Fridays at Finn Rock Reach.** Projects include invasive species removal and habitat restoration. Space limited. Sign up online.  
**Saturday, 13 April, 8am–4pm. Living River Exploration Day at Green Island** (rescheduled from 9 March due to ice storm damage). Free. Preregistration not required.
- **Native Plant Society of Oregon, Emerald Chapter** <https://emerald.npsoregon.org/>  
**Monday, 18 Mar., 7–9pm. Culturing Native Plants in the Pacific Northwest.** Presented by Michelle Osgood, Assistant Horticulturist, U.S. Forest Service. In person at Amazon Community Center, 2700 Hilyard St, Eugene. Free.  
**Saturday, 30 Mar., 1–3pm. Ramble at Buford Park, East Entrance.** Leader: Karl Anderson. Contact him at 505-257-0554 for more information. Sign up [here](#).  
**Saturday, 13 Apr., 9am–3pm. Brice Creek Trail Hike.** Leader: Bruce Waugh. Hike through an old growth forest on a streamside trail through a scenic, rocky canyon. Bring lunch, water, boots, rain gear, and hiking poles. Sign up [here](#).  
**Sunday, 14 Apr., 1–2pm. Museum of Natural and Cultural History Native Plant Garden Tour.** Leader: Margaret Conover. Sign-up is not needed, and the tour is free to NPSO members.
- **Mt. Pisgah Arboretum** <https://mountpisgaharboretum.com> or 541-747-3817.  
Mt. Pisgah Arboretum and the Howard Buford Recreation area are reopening on 15 March!  
**Saturday, 16 Mar., 10am–1pm. Reopening Celebration.** White Oak Pavilion, Mt. Pisgah. Staff and volunteers will lead casual tours of the site to explore the damage and recovery work. Hot beverages and snacks will be provided!  
**Saturday, 23 Mar., 9am–noon. Storm Cleanup Work Party.** Tools, gloves, and a parking pass will be provided to volunteers (bring a water bottle). Please [RSVP](#) if you plan to attend or [email](#) for more info. **Limited to 15 attendees.**  
**Sunday, 24 Mar., 9–11:30am. Monthly Bird Tour.** Leaders: Mieko Aoki and Julia Siporin. All birding levels welcome. \$5; FREE for Arboretum members. Limited to 18 attendees. Preregistration required. [Click here](#) to register.  
**Saturday, 30 Mar., 10am–noon. Early Spring Wildflowers Walk.** Leader: August Jackson. \$5; FREE for Arboretum members. Limited to 18 attendees. Preregistration required. [Click here](#) to register.
- **Lane County Audubon Society** [www.laneaudubon.org](http://www.laneaudubon.org) or 541-485-BIRD; maeveanddick@q.com or 541-343-8664  
**Saturday, 16 Mar., 8–11:30am. Third Saturday Bird Walk.** McKenzie River Trust Willamette Confluence property. Leaders: MRT's Sarah Merkle and Charlie Quinn. All levels of birders are welcome.  
**Friday–Sunday, 22–24 Mar. Sandhill Crane Festival, Othello, WA.** Registration is open at their website.  
**Tuesday, 26 Mar., 7–8:30pm. Drawing on Nature.** Artist Ram Papish will describe his current professional work, specializing in illustration of interpretive signs, books, and posters. Campbell Community Center, 155 High St., Eugene.  
**Saturday, 6 Apr., 8–11am. First Saturday Bird Walk.** Birders of all levels and backgrounds welcome. Location and leader TBA. To sign up, contact Sarah: 1stsaturdaybirdwalks@laneaudubon.org.

### ENHS MEMBERSHIP FORM

Name \_\_\_\_\_

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Delivery of copies of *NT*: by e-mail  or by USPS

E-mail address for electronic copies of *NT* \_\_\_\_\_  
(electronic copies are in color with live links and save paper and postage!)

#### ANNUAL DUES:

Individual	\$15.00
Family	25.00
Life Membership	300.00
Other Contribution	_____

Make checks payable to ENHS or pay electronically on our website →

Mail checks to: P.O. Box 5494  
Eugene, OR 97405

Fill out the form or go to our website (see QR code below) to join and pay by check or electronically. Membership payments allow us to give modest honoraria to our speakers and pay for the publication and mailing of *Nature Trails*. Find us at:

<http://eugenenaturalhistorysociety.org/>  
and  
[https://www.youtube.com/channel/UCEr yzVh9lw9y-nLS\\_t94BVw](https://www.youtube.com/channel/UCEr yzVh9lw9y-nLS_t94BVw)



Eugene Natural History Society  
P.O. Box 5494  
Eugene, OR 97405

**Monthly meetings:**

When: September–May: third Friday; December:  
second Friday

Where: **221 Allen Hall** (UO campus) **and/or on**

**Zoom** at

<https://zoom.us/j/97499095971?pwd=eE9sdG9hSHMvOHhIUEJuU21wT20rdz09>

Time: **7:00 pm**

Parking for UO events is available at the UO  
Physical Plant lot: From Franklin, turn north onto  
Onyx, go 1 block to the lot. After 6pm, it's open to  
the public.

See our website for more details.

<http://eugenenaturalhistorysociety.org/>

**ENHS FIELD TRIP TO MALHEUR!!**

See info box inside (p. 6)

**ENHS Officers and Board Members 2023–2024**

Interim President: Tom Titus [tomtitus@tomtitus.com](mailto:tomtitus@tomtitus.com)

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*Nature Trails* editor: Kim Wollter [kwollter@comcast.net](mailto:kwollter@comcast.net)

**2024 Speakers and Topics**

**19 Jan. John Postlethwait**

**16 Feb. Ryan Tucker-Jones**

**15 Mar. Ron Larson**

**19 Apr. Lincoln Best**

**17 May Marli Miller**

**An Icefish Is a Nice Fish**

**How Soviet Cetologists Confronted the World's Greatest Whale Slaughter**

**Natural History of Lake Abert**

**Floral Relations of Oregon's Native Bees**

(cosponsored with the Emerald Chapter of the Native Plant Society of Oregon)

**Amazing Geologic Sites in Oregon**