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.

Why Did the Ecosystem Cross the Road?

I-90 Snoqualmie Pass East wildlife overcrossing (top, *WSDOT*) and Gold Creek wildlife undercrossing (bottom, *P. Garvey-Darda*)

Patty Garvey-Darda

Wildlife Biologist

Interstate 90 Snoqualmie Pass East Liaison
U.S. Forest Service
Okanogan-Wenatchee National Forest
Cle Elum Ranger District
Cle Elum, WA

Friday, 20 September 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 7:00 in 221 Allen Hall, University of Oregon campus.** The Zoom lecture link is https://zoom.us/j/97499095971?pwd=eE9sdG9hSHMvOHhIUEJuU21wT20rdz09 or see our website at https://eugenenaturalhistorysociety.org/

This Month's Speaker: Patty Garvey-Darda

Imagine standing on the side of a busy interstate, cars and trucks furiously whizzing by, wondering how in the heck you are ever going to get safely to the other side where you really need to be. When this happened to Patty Garvey-Darda while doing routine work for the U.S. Forest Service along Interstate 90 in Washington State, she realized that there was simply no safe way for her to get across the highway! Many animals—deer, elk, moose, bear, raccoons, skunks, rabbits, squirrels, snakes, frogs, etc.—face this same dilemma every day. And as we are all acutely aware, the consequences can be catastrophic, for both wildlife and humans. According to the Oregon Department of Transportation, over 6,000 motorists per year are injured with up to 200 deaths from collisions with wildlife. Patty had an epiphany: many of our highways make it virtually impossible for animals to get from one side to the other. We need overpasses and/or underpasses so that they can. The result is an unfolding story that is an inspiring example of how one person's efforts can make a huge difference to the benefit of all.

Patty grew up in Brea, Orange County, southern California, an area dominated at that time by farms and oil rigs. As is true of so many budding biologists, she was "born with it," obsessed from an early age with backpacking, rock climbing, and searching for wild animals, especially amphibians and reptiles. Patty also was willing to take risks, and she spent a lot of time exploring a nearby "nuke base," one of the former nuclear missile bases that are common up and down the western coast of the United States. The old army base offered prime oak woodland habitat for fence lizards and other critters. To people who know Patty, it comes as no surprise that she ignored signs warning that trespassers would be "shot on sight."

After graduating from high school, Patty wanted to get as far away from southern California as possible for college, so she chose Oregon. However, her parents nixed that idea; out-of-state tuition was too high, so her only option was a state school in California. She considered UC Santa Cruz and UC Davis but ended up going to UC Berkeley to study conservation and natural resources. This was a lucky choice, because that's where she met her future husband, Dave Darda, one of David Wake's salamander students (the reason why I know them both). It was also a fortunate choice because she was able to work with noted mammalogist Jim Patton at the Museum of Vertebrate Zoology, who lured her away from a career in public health and put her to work on the chromosomes of pocket gophers. This work entailed expeditions with her soon-to-be husband to Mexico to collect gophers and salamanders for their research projects.

After husband Dave got a professorship at Central Washington University in Ellensburg, Patty obtained a job with the Washington State Department of Transportation working on a spotted owl survey. This position gave her valuable experience working with both wild animals and various groups of humans, such as the timber industry, government agencies, and professional scientists, all with different and sometimes antagonistic interests. It was challenging to implement the new Northwest Forest Plan put forward by the Clinton administration, which included establishing Adaptive Management Areas (AMAs) that respected the needs and interests of the local communities and the concerns of scientists. The focus of her work was the Snoqualmie Pass AMA, which was a natural bottleneck for wildlife complicated by a checkerboard pattern of ownership resulting in fragmented forest patches. The establishment of corridors for wildlife passage clearly necessitated the acquisition of private land. It was during one of these surveys that she experienced her epiphany on the highway and realized the urgent need for wildlife crossings over and/or under existing highways. Patty was lucky. She had a supervisor who appreciated ideas from fellow employees, and she was able to make a convincing argument that something needed to be done. One of their original ideas was a land exchange program to trade public land for private land, a win-win idea that gained broad political support, which was important because an act of Congress was required to make it happen! The upshot was the acquisition of more than 100,000 acres and elimination of the checkerboard pattern, an achievement that wildlife biologist and author Tony Clevenger described as the biggest road ecology project in the United States.

Currently, approximately 7.5 miles of the project have been completed, including six large crossings (overpasses and underpasses), with 5.5 miles still under construction and about 2 miles left to go. Documented crossings include thousands of deer, elk, birds, reptiles, and amphibians. One thing that I

hadn't appreciated before interviewing Patty is that the wildlife overpasses usually also include underpasses, which, when you think about, are just as or even more important, because they connect streams and facilitate migration of smaller organisms such as reptiles and amphibians and provide habitat and resting or hiding areas for larger animals.

P. Garvey-Darda

She says this about her upcoming talk:

I will focus on wildlife crossing structures completed by the Washington Department of Fish and Wildlife on the I-90 Snoqualmie Pass East project, located in the Central Washington Cascades. I will include HD and infrared video of animals using the crossing structures. This project is designed to restore ecological connectivity on 15 miles of the Interstate to facilitate the movement of organisms and the maintenance of ecological processes across the ecosystem over time. Intact ecosystems are structured by dynamic processes that create a shifting mosaic of various habitat patches. The ability of organisms to disperse freely through this mosaic is important to allow genetic exchange, recolonization of habitats, and maintenance of functioning food webs. Genetic variability is a species' insurance against localized or population level disturbances and ultimately improves an organism's long-term evolutionary potential. The ultimate outcome is natural, sustainable populations across an ecosystem over time. The project is approximately 50% done. I will present the number of animals and the species that have been documented using the completed structures, the species we are watching for, and in general what we have learned so far.

Come in person if you can; there will be cookies! Otherwise, join us on Zoom at https://zoom.us/j/97499095971?pwd=eE9sdG9hSHMvOHhIUEJuU21wT20rdz09 —Stanley K. Sessions

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Time and Time Again, a Calendar Journey

by Reida Kimmel

I started keeping calendars in the 1970s, recording our chickens' egg production, the weather, and appointments. Soon, interesting tidbits crowded into each daily box, noting the quality of the weather, our many animals' lives and woes, gardening successes and failures, planting and harvesting, wildflowers coming into bloom, and the seasonal arrivals and departures of our local birds. Squiggles on the margins detailed amounts of produce canned or frozen and compared our precipitation here at 1000 feet on the east slope of the Coast Range with Eugene's at 400 feet in the milder Willamette Valley. No computer file could ever hold all the riches of those 50 years. My calendars make interesting, maybe valuable, reading.

The calendars tell me that smoke has only recently become a challenge. The records show a huge increase in the frequency and duration of smoke events beginning in 2018 with its four profoundly smoky days in August and September. Despite numerous huge wildfires in California and Oregon, 2019 was a smoke-free year, probably due to rain clearing the air in August followed by September's record rains. Then came the horrors of 2020, with heavy smoke pollution 8–17 August, finally cleared away by rain on the 18th. Although 2021 had fewer smoky days, late summer's misery returned in 2022 with smoke and a rain of ash on 10 and 11 September and intermittently smoky days in October. Eugeneans were lucky. On 20 October after three smoky days all over the northwest, Seattle had the worst air in the nation! Then 2023 was a very dry year, no rain at all between 8 May and 31 August, resulting in fires and many smoke days in August.

We know that foul air is dangerous for our health, but we rarely explore the incredible scope of its effects. Smoke is composed of minute particles that cling to everything: our fruit, vegetables, and flowers, which are the sweet scents of summer tempting us to get close and breathe deeply. We can wash our food, but what do the birds or bats do when they eat their natural diet? Insects, caterpillars, plants, and berries, all species living on Earth's surface, get covered with minute gritty and often poisonous particles, ingest or absorb them, and deliver them ultimately to the soil. Grazing animals, heads down in particulate pollution, must breathe and eat regardless of probable damage to their lungs. Our livestock can be shut in and fed clean hay, but the vast majority of our domestic animals are forced to graze harmful substances just as deer, elk, and pronghorn must.

How might air pollution affect the birds and wild creatures all around us? Blessed with woods, fields no longer grazed, a tiny pond, and open sky, there's lots of diversity around my home. Every spring

migrants arrive in due order: barn swallows first, then house and purple finches, black-headed grosbeaks, and goldfinches. Resident winter birds (chickadees, juncos, and towhees) drift away. Owls, Stellar's jays, red-tailed hawks, woodpeckers, ravens, and others are always with us. We spend considerable time watching wildlife, but our ignorance is colossal.

The barn swallows nesting in our farm buildings are always favorites. In spite of our warmer springs, the birds come at approximately the same time every year, between 5 and 12 April. Only once, in 2022, did swallows arrive in March, on the 28th. Their departure dates are variable, as early as 26 August and as late as 22 September. I wondered whether departures were influenced by smoke but could find no correlation. The one possible exception was the early mass departure, 4 September 2020, just before the huge Labor Day fires, which caused, day after day, "the worst smog ever"; the smoke turned our world orange, with no sun and ash covering everything. Did the swallows know something? I doubt it. Barn swallows will raise two broods each year if they can, and they stay around only until that second brood is fledged and competent to begin fall migration. Today, 27 August, we still have two nests with young birds that are barely flying. The other swallows (we had fewer than ever this year) have left already. I expect all the swallows will be gone next week. Weather events can be very important. Early cold and rain causes a dearth of insects. Extreme hot weather makes nests collapse. Babies sometimes jump out of nests and die, perhaps from the fall, sometimes from parasite infections. The parents will feed a fallen live chick if it is mobile and feathered. Barn swallows face many challenges, but smoke is not yet causing changes to their lifestyles. Smoke's underlying effects may be another story altogether.

Migration is the most stressful time for birds, and an extended duration or inadequate resources during the journey can be fatal or ruinous to nesting success. Cory Overton's 2021 U.S. Geological Survey study of four radio-collared greater white-fronted geese revealed that, driven by smoke, these geese had flown on average 470 miles out of their way. But the major questions concerning bird health and migration patterns cannot be adequately explored by catching and tagging just a few birds from various species. The big questions need to be addressed with data across populations and years. In 2023, Olivia Sanderfoot, an ecologist in UCLA's La Kretz Center for California Conservation who studies behavioral changes in numerous species of common backyard birds, started Project Phoenix, a creative project for citizen scientists using eBird. Jointly administered by UCLA and the Natural History Museum of Los Angeles County, the project welcomes and indeed seeks out even beginning birders. Each volunteer watched birds in the same place for 10 minutes per week during peak fire season from August through October and submitted the findings to eBird. Scientists especially want to know how haze or smoke can affect migration patterns, but information about behavioral changes, such as seeking out shade and birdbaths, becoming less or more active than normal, or moving away from smoky areas, can all be helpful, especially to the bird lovers involved in the lives of their neighborhood birds. The project completed its first year in California and this year has expanded to Washington and Oregon, with Jamie Cornelius at Oregon State University involved in the research. The volunteers will collect data from 1 July until 30 November. Cornelius travels to the smokiest regions in the study area each year to collect data on common forest birds, measuring fat and muscle tone and taking blood samples to find chemical evidence of stress. Some of the captured finches are equipped with tiny transmitters to provide longer term data.

I learned of Project Phoenix from the winter 2023 issue of *Audubon* and the August 2024 issue of *High Country News*. If you are interested in helping with this exciting project, get and learn to use the eBird app. Then Google Project Phoenix to become a volunteer.

ENHS 2024 Field Trip to Malheur Wildlife Refuge and Environs by Tom Titus

Alicia McGraw

Thursday, 30 May. Of all the spring field trips organized by ENHS, Malheur Field Station (MFS) remains our favorite destination. The landscape east of Bend becomes wide open and timeless, a gray sea of big sagebrush and rubber rabbitbrush interspersed with green junipers. Sixteen of us made the 6-hour drive and convened for happy hour in the common room of Dormitory E. Calling it a "dormitory" is mostly a nod to history; the old military-style barrack has been remodeled so that all of us had our own rooms. And it truly was a *happy* hour (or 2!). We swapped stories from previous trips, laughed, and ate

a potluck supper of scrumptious appetizers in lieu of dinner in the cafeteria. We even did a little planning. This was largely a formality because regular ENHS visits to MFS over 2 decades have allowed us to refine a 3-day itinerary that provides maximum natural history enjoyment across a very large landscape.

Friday, 31 May. Friday was birding day. Some of us began with a sunrise walk at the field station. Sunlight breached the low-slung eastern ridge and was immediately muffled by cobblestone clouds. A loggerhead shrike leapt from the ghostly bones of a dead willow and dove across the road, white wing patches, black mask, and heavy beak flashing with the certainty of death. A lone sage thrasher warbled and churred from a head-high sagebrush, while a sage sparrow seemed to ask permission to perch low in the thrasher's bush. All the while western meadowlark songs burbled like springs surfacing from the arid basin floor.

We walked to the cafeteria for a large breakfast and an opportunity to fill our brown bags with lunch fixings. Soon afterward we sorted ourselves into four vehicles for the short drive east toward the Malheur National Wildlife Refuge headquarters. Our first stop is always the wetland between MFS and the refuge headquarters. White-faced ibis, black-necked stilts, and American avocets stalked the grassy islands and muddy shorelines around ponds that were shrinking toward summer. Various ducks paddled the shallow water or were perched on exposed islands. A flock of black-headed Franklin's gulls also made their appearance.

At Refuge headquarters, the surrounding Lombardi poplars provide an island respite for songbirds migrating across treeless eastern Oregon. This year the main songbird migration happened before our trip. Nevertheless, yellow warblers and cedar waxwings were abundant and accommodating, as were the great horned owl nestlings. The observation pond held 10 species of ducks, the most any of us had seen in one sitting. From the headquarters, we took the Central Patrol Road south through the heart of the Refuge. This year, water managers had drained all of the ponds on the north end of the road, but we stopped several times to scan for birds in the few places that still held water. Our brown bag lunches were eaten at a pullout in the company of a large number of jetliner mosquitos. There is a t-shirt for sale at the MFS gift shop with a mosquito logo and the inscription "I Gave At Malheur," appropriate for late spring and summer.

Our group chose to leave the Central Patrol Road and turn west at Buena Vista Pond, a great place for water birds. We proceeded up the hill to the overlook for an expansive view east across the Refuge. On the outcrops around the parking area, spectacular side-blotched lizards and western fence lizards sunned themselves. The waning afternoon finally sent us north on Highway 205 and back to MFS for another happy hour and an expansive field station dinner.

Saturday, 1 June. After another large breakfast and the familiar assembly line lunch making, we traveled southeast toward Steens Mountain and the Alvord Desert. It's a long haul by Willamette Valley standards—a 200-mile loop. Our stops along the way were brief, and the weather cut us a break; high clouds took the edge off the heat from a near-summer sun. Eventually we found our turnoff from the Fields-Denio Road, a two-track with chattering washboard and rocks that leads to Mickey Hot Springs. Along the way, a four-foot-long striped whipsnake was stretched across the tracks. These snakes are speedy, and this one sped off into the sagebrush before we were able to photograph it.

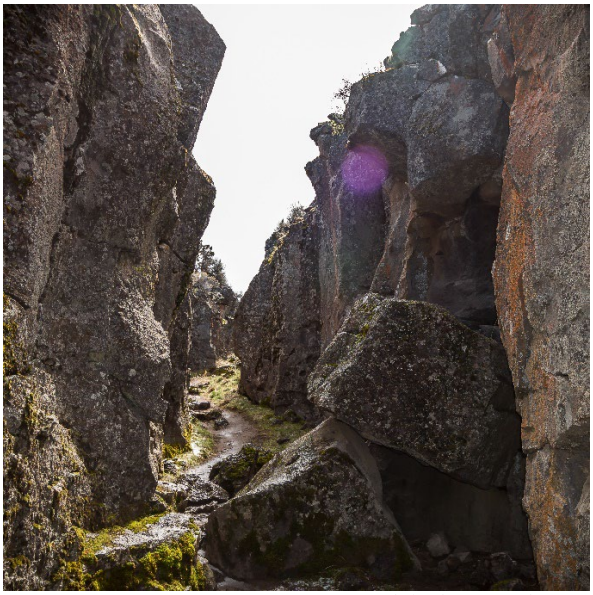
Mickey Hot Springs is Oregon's small version of Yellowstone, with clear hot pools, hissing fumaroles, and bubbling mud pots. The attenuated sun made for spectacular lizard watching. Long-nosed leopard lizards were abundant, the larger females sporting their spectacular orange breeding colors. At the parking area, a pair of desert horned lizards intent on mating was undeterred by our group, the female enticing the circling male with repeated seductive undulations of her tail. Across the road from the parking area a dry wash cuts into the desert floor. A male Mojave black-collared lizard had taken up residence on an exposed rock ledge. These lizards are territorial, and this one was intent on holding onto his spot despite the pesky humans circling in. He allowed us to photograph him only an arm's length away. This is one of Oregon's largest and most beautiful lizards; the males have indigo patches on the flanks and tangerine bands that bisect the slate back.

Tom Titus

After lunch, we were back on the dusty road to Fields, rolling south for our mandatory milkshake stop at Fields Station. The line at the café is sometimes long, but these regionally famous milkshakes are huge, made from scratch, and worth the wait. We slurped and drove north up Highway 205 toward MFS and dinner.

Sunday, 2 June. Nothing was left on our itinerary but to make our way home. We ate breakfast at the cafeteria, swept out our rooms, loaded up, and said our goodbyes. Everyone was free to choose their own return route. Some of us took the longer road through Christmas Valley with a lunch break and hike at Crack-in-the-Ground.

The field trip lived up to everyone's expectations. The accommodations at MFS were adequate and modestly priced. Best of all we were in the company of fellow natural history nerds with plenty to do and see in a unique landscape.



Crack-in-the-Ground. *BLM*

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Go Paperless! When you choose to receive your issue of *NT* as an electronic document, you help us save paper and postage, can access the live links, and can view all of the awesome photos in color!

Volunteers needed for ENHS booth at the Mt. Pisgah Arboretum Mushroom Festival Sunday, 27 October, 10am–5pm.
See announcement in the calendar below. No experience necessary; you will be paired with a trained volunteer. Booth sitting is a great way to learn interesting things and meet interesting people! We usually work in 3-hour shifts, but other time slots are possible. Contact Kim Wollter to sign up: kwollter@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, 9–11:30am. Watershed Wednesdays at Green Island. Projects include invasive species removal, habitat care, planting, and tree establishment. Sign up
  Second Saturdays, Mar.–Dec., 8am–4pm. Living River Exploration Day at Green Island. Free, no preregistration.
  Thursday, 26 Sept., 9am–noon. United Way Day of Caring at Green Island. Pull scotch broom and other invasive plants around a beautifully restored gravel pond. **Sign up**
- **Native Plant Society of Oregon, Emerald Chapter** https://emerald.npsoregon.org/
  Monday, 16 Sept., 7–9pm. Conserving Oak Habitats in Eugene's Ridgeline and Natural Area Parks. Join Emily Steele, ecologist with Parks and Natural Resources, City of Eugene Parks and Open Space. Amazon Community Center, 2700 Hilyard St., Eugene.
  Anytime. Self-guided Tour of Laurelwood Bog. Go south on Agate St in Eugene to the dead end at 29th. The entrance to the Bog is clearly signed, and the trails are covered with bark.

- **Mt. Pisgah Arboretum** https://mountpisgaharboretum.com or 541-747-3817.
  Friday and Saturday, 27 and 28 Sept., 9am–noon. United Way Day of Caring. Sign up by following the link below and searching for "Mount Pisgah Arboretum." Register here.
  Sunday, 29 Sept., 9am–1pm. Mindful Meandering. Julia Siporin will guide the group in getting more attuned to the simple delights and serenity of nature. FREE for Arboretum members and kids; $5 for nonmembers. Register here.
  Sunday, 27 Oct., 10am–5pm. 2024 Mushroom Festival. Attendance is limited; tickets will be released soon.
- **Lane County Audubon Society** www.laneaudubon.org or 541-485-BIRD; maeveanddick@q.com or 541-343-8664
  Friday, 20 Sept., sunset. Goodbye to Vaux Swifts. Meet at the Agate Hall chimney, 17th & Agate, Eugene.
  Saturday, 21 Sept. Bird Walk. For all participants. For more info, contact tolalla@gmail.com.
  Tuesday, 24 Sept., 7–8:30pm. An Endemic Wonderland: Birding the Santa Marta Mountains and the Antioquia Region of Columbia. Presenter: Forest Tomlinson. Zoom and in person, Campbell Community Center, 155 High St., Eugene.
  Monday, 30 Sept., Birding under the Influence: Bicycling across America. Presenter: Dorian Anderson. Zoom only.
- **Museum of Natural and Cultural History, University of Oregon** https://mnch.uoregon.edu/museum-home
  Ongoing exhibits: Oregon—Where Past Is Present; Explore Oregon; Underwater Forests—Oregon's Kelp Ecosystems; Capturing the Cosmos: Images from the James Webb Telescope.
  Thursday, 10 Oct., 6pm. The Archeology and Ethnohistory of Oregon's Lost Sea Otters. Tribal researcher Peter Hatch (Siletz) of the Elakha Alliance and archaeologist Hannah Wellman discuss their work on this lost keystone species.
  Monday, 14 Oct., 10am–5pm. Indigenous Peoples' Day. Come celebrate 14,000 years of Native culture in Oregon. Free admission in honor of the day.
- **Nearby Nature** https://www.nearbynature.org/ or 541-687-9699, 622 Day Island Rd., Eugene (Alton Baker Park)
  Monday, Wednesday, Friday mornings. Wonder Keepers. Preschool program outdoors in our Learnscape.
  Tuesdays and/or Fridays afternoons. Natural Neighbors. After-school program outdoors in our Learnscape.

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Eugene Natural History Society
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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/

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2024–2025 Speakers and Topics

20 Sept.	**Patty Garvey-Darda**	**Why Did the Ecosystem Cross the Road?**
18 Oct.	**David Mildrexler**	**An Enduring Conservation Vision for the Blue Mountains Ecoregion of the Pacific Northwest**
15 Nov.	**David Lewis**	**Reconstructing Traditional Environments of the Willamette Valley**
13 Dec.	**Michael Murphy**	**The Modern Bird World … Living for the City** (cosponsored with the Lane County Audubon Society)
17 Jan.	**Charles Lefevre**	**Northwest Truffle Diversity**
21 Feb.	**TBA**	
21 Mar.	**Nina Ferrari**	**Into the Third Dimension: Understanding Vertical Distributions of Birds in Old-Growth Forests**
18 Apr.	**Sara Hamilton**	**Taking Care of Oregon's Kelp Forests** (cosponsored with the Emerald Chapter of the Native Plant Society of Oregon)
16 May	**Clara Bird**	**Gray Whale Foraging Behavior**