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.

The Sierra Nevada Red Fox Project

Jamie L. Bowles

Oregon Department of Fish and Wildlife, Bend, OR

Friday, 19 May 2023, 7:30 pm

This month's meeting will be a hybrid of in person and real-time Zoom. The in-person lecture will be held in **room 221 Allen Hall, University of Oregon campus.** Parking is across Franklin Blvd, north on Onyx St to the parking lot. For the link to the Zoom lecture, see our website at https://eugenenaturalhistorysociety.org/ or click here: https://zoom.us/j/97499095971?pwd=eE9sdG9hSHMvOHhIUEJuU21wT20rdz09

In August 2021, the U.S. Fish and Wildlife Service listed as endangered an isolated population of the Sierra Nevada red foxes (SNRFs) living in the Sierra Nevada of California near Yosemite National Park. At the time of the designation, an estimated 18–39 adults remained.

The SNRF is one of three montane subspecies of red fox, which typically live above 6,500 ft. Although these foxes once ranged from the Sierra Nevada through the Oregon Cascades, populations have declined dramatically in recent years. Habitat destruction from livestock grazing, logging, and other disturbances, collisions with off-road vehicles and snowmobiles, and trapping and poisoning have all taken a toll. Habituation to human food sources may also be exposing these animals to dog attacks and diseases. Small litter sizes, inbreeding depression, and hybridization with non-native species further limit fox population growth.

The montane SNRF subspecies found in the Oregon Cascades was once considered the Cascade red fox; however, genetic results from a hair sample collected during a 2012–2014 Oregon Department of Fish and Wildlife (ODFW) forest carnivore survey revealed that these montane foxes were actually SNRFs. This finding highlighted the need for a more extensive survey of the Oregon Cascades, and trapping efforts began in 2016.

Enter Jamie Bowles, now one of Oregon's leading SNRF experts. Jamie was the principal researcher for the ODFW Cascades SNRF project, which ended in 2019. Her field expertise and acquired knowledge primed her to serve as an advisor for the California SNRF Conservation Assessment Team, which eventually developed the conservation strategy for the California SNRF subspecies in 2022.

Jamie was born in Oregon City but soon moved to the Tumalo area north of Bend. She graduated from Redmond High School, and although she felt an early attraction to marine biology, the birth of her first child shifted her attention to her family. She found work preparing charts in the medical industry until the recession of 2009 forced the shutdown of her department. Jamie then used her severance package to enroll at Central Oregon Community College with the hope of developing a long-term career.

After earning her A.A. degree, Jamie transferred to Oregon State University–Cascades and found her best fit within the Natural Resources Policy and Management program. Between her junior and senior years, she completed her first tour with ODFW. She applied for a 2-month paid summer internship (which ultimately lasted for 8 months) removing invasive tui and blue chub from East, Paulina, and Lava Lakes. "It was an amazing internship: going out, working long days in all sorts of crazy weather here in central Oregon, manually trapping tui and blue chub in some of these high lakes. We pulled thousands of pounds of fish out of these lakes, but that really spurred my interest in working for the department."

After completing her undergraduate degree, Jamie joined ODFW in 2015 filling a temporary purchasing position, which became permanent. With supportive management and her developing interests, Jamie found she was able to get out in the field often. "One day there was an injured buck in town, and Wildlife grabbed me and said, 'Hey, do you want to come out? We have no other hands. Can you drive the truck?' We went out, darted this deer, and I basically was bitten by the wildlife bug at that point."

She soon realized that if she really wanted to be a working biologist, she would need a master's degree. In 2017, Jamie returned to Oregon State University and took the lead on the ODFW SNRF project. She then used preliminary data from her SNRF work for her master's

degree capstone project and earned an additional graduate certificate in Wildlife Management in 2018. “The goals of the project were to capture and fit foxes with GPS collars to determine the home ranges, habitat use, and den site characteristics.” This approach required the use of hundreds of trail cameras to ascertain fox movements and eventually deploy live traps.

In the 4 years since completing her work with the Oregon SNRF project, Jamie’s job duties and titles have become progressively larger in scope. She is now 6 months into her latest position as the Deschutes Watershed’s Regional Habitat Biologist. As such she provides “recommendations and guidance for activities that could potentially negatively impact wildlife habitat.” She works with landowners, watershed councils, non-governmental organizations, and other agencies. A special emphasis is placed on Oregon Conservation Strategy species, i.e., those identified as having small, declining, or unknown population levels and thus possibly at risk.

Jamie assists in the review of land management activities such as energy development (e.g., solar and wind), forest fire fuels reduction, landfills, and building development. “I also work with private landowners on larger scale projects to enhance habitat, securing funding through numerous grant opportunities for thinning juniper trees in mule deer and pronghorn winter range, seeding native forage for deer and elk, removing barbed wire fencing, and installation of water catchment systems.”

Her current work concerns wildlife movement. “One of the biggest projects I am working on right now is a cooperative project with multiple stakeholders to secure funding for a feasibility study for the construction of a large wildlife overpass in the Black Butte area west of Sisters.” This area is important due to the high number of collisions that occur between vehicles and wildlife. “There are hundreds of elk in this area, as well as mule deer and many other critters that have a need for safe passage across this busy highway.”

Please join us on Friday, 19 May at 7:30 pm **in 221 Allen Hall on the University of Oregon campus** to hear Jamie Bowles discuss the Sierra Nevada Red Fox project. —Alicia McGraw

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Ash Stories by August Jackson

In early March a pair of white-breasted nuthatches chatter to one another as they investigate a small cavity that raised a swallow family last spring and maybe would again this year, but it’s been an interminable winter and the violet-green swallows are late in returning from their southern residence, leaving the nuthatches with first dibs. In this Oregon ash tree, there’s a larger cavity upstairs that European starlings have used in the past and above that a skylight where the hollowed tree was halved in a storm some decades ago. Below the break, epicormic shoots responded to the heavy pruning and have grown leg-thick, hiding the scar in a full canopy. In the outstretched branches, Bullock’s orioles have woven fishnet lichens and plant fibers into hanging basket nests. All our ash trees of this age are empty of heartwood and full of life.

Oregon ash don’t rank among my favorite trees. They’re quick growing and relatively short lived, lacking the architecture of oaks and the majesty of old-growth conifers. They shatter under the weight of snow and ice, and I’ve spent countless hours cleaning up after them. Oregon ash are weedy and a pernicious invader in wet prairies that see less fire than they’re used to. These trees have moved into oak woodlands and closed the canopy. Outside of their regular bottomland haunts, they’re changing the plant communities beneath them.

Ash are opportunistic trees but also resilient, and I’ve grown to love them. They’re able to thrive in damp locations where other trees cannot, including in swamps where their roots may be underwater for several months of the year. However, this proclivity for damp conditions makes these trees particularly susceptible to fungal infection and heart rot. With reduced structural integrity, they are prone to breaks, and many of the older trees in our riparian areas have lost and regrown their canopies at least once. Any break is followed by a stress-induced response of vigorous epicormic branching. This same stress response is also a key indicator of emerald ash borer infestation.

Native to east Asia, the emerald ash borer was first detected in North America near Detroit,

Michigan around the turn of the century but had likely arrived about a decade earlier. This brilliant green beetle is not typically a cause of mortality for healthy ash trees in its native range, but North American ash species are immunologically naïve and have no natural resistance to the insect. An infestation in any of the 16 species native to North America is a near-certain death sentence for the tree. Tens of millions of ash trees in eastern North America have perished in the preceding decades, and all of the estimated 8 billion ash across the continent are at risk.

The emerald ash borer was found for the first time west of the Rocky Mountains in Forest Grove, Oregon in June of last year. The beetle's arrival has been anticipated, and nearly one million seeds of Oregon ash have been harvested to preserve genetic diversity and repopulate the region in the future. But the near extinction that will come first is all but inevitable. Don't blame the pretty beetle, but don't think you can do much to stand in its way. When the emerald ash borer was discovered in Michigan, quarantine efforts proved inadequate. It takes several years for infected trees to begin to show serious signs of decline, and by the time they do, multiple generations of adult borers have emerged, and some have flown to other trees. About 20% of mated females flew 10 km from their natal site, making a sporadic but steady march across an all-you-can-eat buffet of a continent.

I have a few favorite individual ash trees. One was uprooted in the ice storm of February 2014 and fell alongside a footbridge. I reopened a path through its grounded canopy but left the trunk in place to slowly decay. With a handful of roots still deep in the alluvial soil, the tree had other plans and several vigorous branches have arisen vertically from the bole—new trunks 20 feet tall and as healthy as any 10-year-old trees around. Osoberry and fringecup grow from the raised vantage of the bare earth rootwad, and rough-skinned newts swim at its feet.

Another favorite tree sits adjacent to a creekside Douglas-fir, which did succumb to its own heart rot. The punky wood of its fallen top blushes pink with rosy polypores in the fall, and the standing snag is used by mating turkey vultures in the spring. But the ash still stands tall in spite of an impressive lean and a child-sized hole at its base in which a pile of fine sawdust steadily accrues. Heart rot results from a profuse network of mycelial threads growing in the interior nonvascular wood of the tree. This softened heartwood is an invitation for nest establishment by carpenter ants, which may persist for more than a decade even if bothered by a pileated woodpecker. When I take a group of school kids past this tree, I have them pass around a handful of the sawdust and ask them to consider where it came from and whether the tree is alive. These questions open up a conversation about how living trees may have dead parts, and what other life may be attracted to these parts.

When we think about the life that a single tree can support, it becomes difficult to fathom the loss of millions of trees. Every indication is that Oregon ash will become functionally extinct in the Willamette Valley, likely within the next 20 years. There is reason to believe the species will recover, but it may be another 100–200 years (a couple of human generations) before our riparian forests look as they do now. In the interim, we'll have only stories—in word, in photos, in working with the wood. It is stories that have kept alive the dream of returning the American chestnut to eastern forests, and that challenging process is slowly underway. I encourage taking the time now to get to know Oregon ash, if only to celebrate what we have and better know what we'll be losing. We could harden ourselves to this loss, but we might find more life with a softened heart.

Emerald ash borer. Oregon Department of Agriculture

[Editor's note: Don't mistake the native golden buprestid beetle for the emerald ash borer.]

[Author's Note: This is my last month as president of the Eugene Natural History Society, and I am thankful for the honor and privilege of serving the Society and its membership.]

Vanishing by Reida Kimmel

About 10 years ago I heard a strange noise across the road. Not a bleat, not exactly a hoot. "That is one demented bird," I thought. Our neighbors Maeve and Dick had been hearing the noise, too, and being expert birders were able to tell me that the vocalist was a young barred owl practicing hooting. The noise went on all summer, getting more owl-like, and seemed to be performed by a growing chorus. Barred owls were new to our area, having expanded their range across North America from the East Coast (where populations are dwindling), through Canada, and along the Pacific Coast. Barred owls thrive in mixed open and wooded habitats. Logging, burgeoning ex-urban development, and varied prey sources suit them well. But this resilient species poses a dreadful threat to the West Coast's spotted owls. Barred owls are incredible generalists, gobbling up a variety of small and medium-size mammals, reptiles, amphibians, fish, crustaceans, and even earthworms. Expert predators in open spaces, barred owls also hunt in the forests, and they eat foods on which spotted owls depend. Shy specialists, our native spotted owls prefer to live in mature forests where trees are 150–200 years old. Though spotted owls feed on birds and invertebrates, their primary foods are the mammals that depend on old-growth habitat: flying squirrels, pocket gophers, bushy tailed wood rats, deer mice, and red tree voles.

Spotted owls are threatened because of the loss of their mature forests. Logging began in the 19th century, but the real crunch came after 1945. The postwar housing boom saw federal lands opening for massive timber harvests. The use of chainsaws, newly invented, sped the process. The old forests were hauled to the mills, and plantations of fir covered the scarred land. Few places remained for old-growth obligates. By the 1980s many in the science community and conservationists began to demand reform. From estimates made in the late 1980s, only 10% or perhaps 5% of old-growth forest remained. Species such as the marbled murrelet and the spotted owl were doomed. Most people in the timber counties of California and the Pacific Northwest did not know or care much about this habitat loss but cared very much that the logging continue on a grand scale to preserve jobs and a way of life. This was the time of the Timber Wars. Things got ugly between the preservationists and the timber harvesters, and the scars are still there. In 1990, after protracted lawsuits, the spotted owl was federally designated as threatened, but numerous attempts to change that status to endangered have all failed. In 1993 President Clinton convened a conference in Portland that resulted in the 1994 Northwest Forest Plan. Researchers from Oregon State University were responsible for critical parts of the Plan, especially those preserving watersheds and wetlands. However, the Forest Plan did not go far enough. It failed to take into account the next century, to protect enough land, and to define stringent enforcement strategies. "Critical habitat" designated for the threatened owl was never enough, but the timber industry's lawsuits against the Plan continue to this day. The Bureau of Land Management persists in issuing logging plans and holding timber sales. Still, many of us think the troubles are over; the owl is saved because federal land with old trees is protected and because the Elliot State Forest in Oregon will be protected from aggressive logging.

These assumptions are wrong! The spotted owl may have some protections, but its numbers are dropping dramatically, hurtling toward extinction. The U.S. Forest Service estimates that only 3,000–5,200 spotted owls remain on federal lands. In an analysis of California, Oregon, and Washington spotted owls published in 2022, populations were estimated to have shrunk by at least 65% between 1995 and 2018. Is there any way to stop or reverse this trend? If areas of good habitat that used to support several breeding pairs now have no owls or only a single bird, how can genetic diversity be maintained, and how can these birds even find a mate?

Ashley Braun's article in the fall 2022 issue of *Audubon* magazine opened my eyes to the plight of spotted owls. She referred to Paul Henson, retired director of the U.S. Fish and Wildlife Service's owl recovery program, who

says that the owl faces three great threats to its continued existence. The first is its utter dependence on old-forest habitat, the very habitat that contains the most valued timber and unprotected old growth that is still being logged. All the best remaining habitat, including currently unprotected old-forest stands where spotted owls could or should live, must be preserved. A second threat is our changing climate with its hotter, drier conditions and incredibly hot fires that destroy even the old trees. Some careful management that did not involve logging mature trees could reduce hazardous flammable brush. Planning ahead and planting a mix of species that protect and expand wetlands would allow these wet areas to play their traditional role in slowing and halting fires. The third threat is the barred owl, and the method of dealing with it is shocking. Shoot them. Barred owls are larger and more aggressive than spotted owls and are demonstrably responsible for their decline.

Wildlife managers, federal, tribal, and private, have been shooting barred owls in spotted owl territories since 2008. These isolated removals have all yielded the same result. Killing works. When a timber company shot the barred owls on its protected land, its spotted owl population rose by 8% in a few years. Once again, nests succeeded. Other experiments using this lethal tactic also have been successful. It seems morally repugnant to kill birds that are only behaving as their natures intend, even when it is done to save another species of bird that is perhaps more special, more charismatic. What is it about a bird? So small, their plumage so soft and lovely. How could a little bird be destructive? Sadly, they are very destructive of a very fragile piece of our natural world. Are we, humankind, to be the ugly destroyer and manager of the natural world? Or with kind hearts, will we let slip the only hope the spotted owl has to survive as a species? Tough questions.

ENHS Spring Potluck: 2 pm, 13 June, at the Kimmel's, 30306 Fox Hollow. All welcome (must be 2 weeks past your final COVID vaccination). Bring a dish and beverage to share. If you need directions, contact Reida at rkimmel@uoregon.edu or call 541-345-4919.

Selected Events of Interest

(for complete listings and details, see individual websites)

- **McKenzie River Trust** https://mckenzieriver.org/events/#event-listings or 541-345-2799
  Wednesdays, 9–11:30 am. Watershed Wednesdays at Green Island. Projects include invasive species removal, habitat care, planting, and tree establishment. Sign up
  First Fridays, 9:30 am. Friends of Finn Rock Reach. Help restore habitat in the middle McKenzie River area. Details for each project are available upon sign-up.
  Second Saturdays, 8:00am–4:00pm. Living River Exploration Days at Green Island. Connect with nature in this special habitat for beaver, river otter, and >150 species of birds.
- **Lane County Audubon Society** www.laneaudubon.org or 541-485-BIRD; maeveanddick@q.com or 541.343.8664
  Saturday, 20 May, 17 June, 8:30am. Third Saturday Bird Walks. May: Daniel Farrar (Fern Ridge Reservoir); June: Anne and Dan Heyerly (Mt. Pisgah).
  Tuesday, 23 May, 7pm. Tufted Puffins on the Oregon Coast, with Carina Kusaka. Campbell Center, 155 High St., Eugene. In person and Zoom.
  Saturday, 3 June, 8:30am. Third Saturday Bird Walk. Reserved for women, BIPOC, and members of the LGBTQIA+ community. Birders of all levels and backgrounds are welcome, particularly those who may have felt intimidated at the thought of birding alone or on other guided walks. Location and leader TBA.
- **Native Plant Society of Oregon, Emerald Chapter** https://emerald.npsoregon.org/.
  Thursday, 17 May, 4–5pm. Willamette Wetlands of the Kalapuya, Mural and Native Plant Tour, led by Susan Applegate and Nancy Bray. Westmoreland Park, Eugene.
  Thursday, 20 May, 1–2pm. Native Plant Tour at the Museum of Natural and Cultural History, University of Oregon.
  Tuesday, 23 May, 4–7pm. Thurston Hills Natural Area. Leader: Fraser MacDonald. Sign up here.
- **Mt. Pisgah Arboretum** https://mountpisgaharboretum.com/festivals-events or 541-747-3817
  Sunday, 21 May, 10am–5pm. Wildflower and Music Festival. In partnership with the Native Plant Society and Lane Community College. View hundreds of species of local wildflowers on display in the Arboretum's White Oak

Pavilion. Enjoy guided nature walks, live music, local food, and arts and crafts vendors. Attendance is limited, and tickets must be purchased in advance. https://mountpisgaharboretum.org/festivals-events/wildflower-music-festival/

- **Nearby Nature** https://www.nearbynature.org/ or 541-687-9699, 622 Day Island Rd., Eugene (Alton Baker Park)
  Monday, Wednesday, Friday mornings. Wonder Keepers. Outdoors in our Learnscape and in Alton Baker Park.
  Tuesdays and/or Fridays. Natural Neighbors. Outdoors in our Learnscape and in Alton Baker Park.
  Tuesday, 16 May, 10–11:30am. Green Start—En Español. Disfruten de actividades prescholares y una historia en el libre, lluviao sol, en las zona de juegos naturales de Nearby Nature.
  Monday, 29 May, 8:30am–4:30pm. No School Day Adventure: Wild Child. Alton Baker Park. Ages 5–11, groups of 12. $60 members/$70 nonmembers.
  Tuesday, 13 June, 10–11am. Green Start Play Day: Mucky Mud. Kids 5 and under with an adult. Members FREE, nonmembers $8/family. Preregister online.
  Tuesday, 20 June, 10–11:30am. Green Start Play Day: Jugando en el lodo—En Español. Disfruten de actividades prescholares y una historia en el libre, lluviao sol, en las zona de juegos naturales de Nearby Nature. ¡Esta mes la tema se trata de jugar en el barro! Solo niños de 0 a 5 años, acompañados de un adulto. ¡GRATIS! Registrese aquí.
- **Museum of Natural and Cultural History, University of Oregon** https://mnch.uoregon.edu/museum-home
  Saturday, 13 May, 10am–4pm. Family Day: STEM Is for Everyone! Explore the museum, learn about STEM careers.
- **Friends of Buford Park and Mt. Pisgah** https://www.bufordpark.org/ or 541-344-8450
  Saturday, 13 May, 7:30–11am. Prairie–Savanna–Woodland Restoration Tour. Leader: Jason Blazar. Easy walking. Meet at Mt. Pisgah southeast parking lot by 7:15am. Space limited; preregistration required https://forms.gle/cEVge4ZccCtnyUm39.
  Wednesday, 21 June, 5–7:30 am. Solstice Sunrise Summit Hike. Leader: Jason Blazar. Moderate difficulty. Meet at Mt. Pisgah summit trailhead (trail 1) by 4:45am. Space limited; preregistration required https://forms.gle/dWai4FSNpLRdAoUZA.
- **WREN (Willamette Resources and Educational Network)** https://wewetlands.org
  See the website for programs and information.

Meeting location this month is 221 Allen Hall on the UO campus.
From the UO Physical Plant lot, cross Franklin Blvd. and walk toward Willamette Hall. At the south end of the courtyard, turn right and walk past the south side of Cascade and Pacific Halls. Allen Hall is west of Pacific Hall. Enter through the SW door, walk up a half-flight of stairs, go through the door, walk to the central corridor, and turn left to Allen 221.

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.

ENHS welcomes new members! To join, fill out the form below. 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/ https://www.youtube.com/channel/UCEryzVh9lw9y-nLS_t94BVw

MEMBERSHIP FORM
Name _____

Address _____

City _____State & Zip_____

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I (we) prefer electronic copies of *NT* rather than paper copies. ___Yes ___No

E-mail for electronic copies of *NT* _____

Memberships run from September to September. Annual dues for renewing members are payable in September. Generosity is encouraged and appreciated.

ANNUAL DUES:

Family	$25.00
Individual	15.00
Life Membership	300.00
Contribution	_____

Make checks payable to ENHS

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

The Eugene Natural History Society meets on the third Friday, September through May, except in December when the meeting is on the second Friday. Meetings are at 7:30 pm and/or on Zoom. Locations are noted in *Nature Trails* and on our website.

ENHS
P.O. Box 5494
Eugene, OR 97405

The May meeting is our annual Business Meeting. Members will be asked to vote on whether to accept the changes in the officers and at-large Board members for 2023–2024:
Tom Titus: Interim President
Stan Sessions: Vice-President
Dave Wagner: Second Vice-President
August Jackson: Immediate Past President
Dean Walton: At-large Board member
Alicia McGraw: At-large Board member
(All other officers and Board members continue as per 2022–2023, listed below)

ENHS Officers and Board Members 2022–2023

President: August Jackson augustjackson@ecolingual.com
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Nature Trails: Editor: Kim Wollter kwollter@comcast.net; Support: Reida Kimmel, Chuck Kimmel, Stan Sessions, Tom Titus

2023–2024 Speakers and Topics

15 Sept.	**Donna Staaf**	**Cephalopods**
20 Oct.	**Patty Garvey-Darda**	**Wildlife Corridors**
17 Nov.	**James Cassidy**	**Soils**
8 Dec.	**Gina Reverdy**	**Mt. St. Helens Recovery and Bird Life**
19 Jan.	**John Postlethwait**	**Arctic Fishes**
16 Feb.	**Ryan Tucker-Jones**	**Soviet Whaling and Science**
15 Mar.	**TBA**	
19 Apr.	**TBA**	**(cosponsored with NPSO)**
17 May	**Marli Miller**	**Amazing Geologic Sites in Oregon**