Nature Trails

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Students in Helzer's class, collecting samples.

Field Trip

Rimrock Draw Rock Shelter: Stones, Bones, and Seeds. What Artifacts Tell Us About Life 10,000 + Years Ago

Dr. Marge Helzer, Instructor of Anthropology,
Lane Community College, Eugene, Oregon
Friday, 18 January 2013, 7:30pm, Room 100
Willamette Hall, UO Campus

This month's speaker, Dr. Marge Helzer, grew up on the coast of the Atlantic Ocean, in central New Jersey. Helzer's early exposure to the natural world was thanks to the woods that surrounded the block where her family lived. She spent lots of time poking around in that small but mostly undisturbed place (it's now another housing development). Listening to her older brother describe his adventures got her interested in forestry. He was an environmental attorney, and on his home visits he told stories of being in the field with wildlife biologists, doing such things as climbing trees to look into nests of bald eagles.

Helzer reasoned that by becoming a forester she might learn more about nature and have some adventures like that. So after high school she spent two

years in the Forest Technology program at Pennsylvania State University and received an Associate of Science degree. She said she learned a great deal about trees – she loved her dendrology class – but she also ended up with experiences she hadn't bargained for. She and her classmates had a clear-cut for one of their classrooms. She learned how to wield a crosscut saw and a chainsaw. She learned how to operate a bulldozer and a skidder.

Helzer got a job with the U.S. Forest Service after finishing at Penn State. She was located at a field station in the Clearwater National Forest in Idaho, doing regeneration surveys. Walking through those immense clear-cuts she realized how devastating they are, and over that summer she concluded she really didn't want to be a forester. From Idaho she went back across the continent to Pennsylvania, where she worked for a while for a landscaping firm. But her time in Idaho had been enough to convince her she needed to learn more about the Pacific Northwest, so one more trip across the continent: she packed her car and headed for Oregon. Friends of a friend lived in Eugene and after walking around our fair city for a couple of days she knew this was it: she would live here.

After two years in Eugene, thinking about what she would major in when she resumed her education and saving money to pay for it, Helzer enrolled in the University of Oregon. By this time she had met the man who would become her husband, sculptor Pete Helzer (long time member of the ENHS board) who was working on the piece that sits atop Mt. Pisgah. He ended up hiring her to advise him on the botanical aspects of the piece, which brought into play her tree expertise. The help went both ways: Pete suggested she try an anthropology course. She took one. Then she took another, and another, and it became clear to her

this was her calling. She graduated with honors with a B.S. in Anthropology.

Helzer also got her M.S. and Ph.D. degrees in anthropology here at the U of O. Her advisor was Mel Aikens. Her M.S. research involved sourcing obsidian artifacts found in the Pleasant Hill Valley, which provided insights into trading routes of the ancient civilizations in that area. She then taught anthropology and archaeology for a year at Central Oregon Community College, in Bend, before returning to the Anthropology Department for her Ph.D. For that research she concentrated on paleoethnobotany, after learning from various faculty members how critical that expertise could be to the ongoing research in central and eastern Oregon.

The U of O's Museum of Natural and Cultural

History hired the now Dr. Helzer. She did paleoethnobotanical work full-time there for two years, after which she accepted the position at Lane Community College she now holds. She still does contract research for such entities as the BLM and the USFS on the side.

Last summer Helzer was talked into teaching a lab course in paleoethnobotany at the U of O summer archaeological field school in southeastern Oregon. This is her account of the negotiation. "My

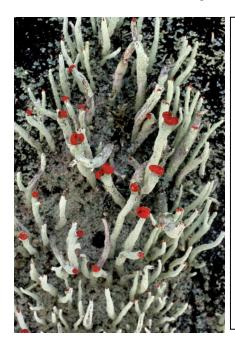
involvement in research at the Rimrock Draw Rockshelter was the result of complicated three-way negotiations between myself, Scott Thomas of the BLM, and Patrick O'Grady at the U of O. When they asked me to teach a field class in paleoethnobotany, I said, "NO!" I preferred to work at home and sleep in my own comfortable bed. They said, "How can we change your mind?" I said, "Get me a room at the Hilton and pay me as much as the U of O pays Chip Kelly." They came back with a counter-offer: a tent, foam pad, and minimum wage. I said, "How about a room at the Ramada, and a professor's wage?" They said that Riley is the nearest town and it doesn't have a Ramada, only a filling station and a general store, but they might be able to find a mouse-free travel trailer, and a sun shower. I said, "What about a furnished lab with electricity and running water?" They offered a horse trailer, a generator, and a water buffalo. Eventually we came to an agreement. I realized later that our agreement was based on some rather relative interpretations as to what counts as a lab or a warm shower. This is the way we field archaeologists work. Some things we learn through physics, like the tenthousand-year dates of our artifacts as measured by rates of radioactive decay; other things we estimate from personal experience, such as, "ten thousand" is a

reasonable estimate of the number of mice in that travel trailer. I've also learned through experience that when you have thirty intelligent students in one place, you can usually find someone with the knowledge and experience to repair a generator, build a shower stall, or process botanical floats using a milk jug and a water buffalo."

Helzer showed me photos of exquisite artifacts from that site. Her excitement was palpable when she told me about them – how deep they were and how "scary" old they are. One bone fragment comes from an extinct camel! This talk cannot fail to be interesting and exciting. Please join us on Friday, 18 January at 7:30 pm in room 100 Willamette Hall on the U of O campus to hear Dr. Marge Helzer's presentation "Rimrock Draw Rock Shelter: Stones, Bones, and Seeds – What Artifacts Tell Us About Life 10,000 + Years Ago." John Carter

Out and About

"Out & about" is a periodical encouragement to Eugene Natural History Society members to get out and experience our magnificent Oregon. Photos and descriptions provided by David Stone.



Cladonia Lichen

Lichens are unique creatures. They are a combination of algae and fungus, The algae performs photosynthesis, feeding carbohydrates to the fungus, which draws other nutrients from the soil or other substrate and provides a body for the algae to live in. They come in three forms: foliose (leaf-like with a top and bottom), fruticose (radially symmetric, that is, like a stem with an inside and an outside) and crustose (often attached to a rock, with a top, but no visible bottom). This lichen is a fruticose lichen found growing on a rock.

Lichens can be very picky about their habitat and require clean air to thrive. As such, scientists have developed a scheme to detect air pollution, noting the presence, absence and abundance of certain lichens to rate the purity of the air in a specific location.

ENHS Field Trip to John Day Fossil Beds

ENHS is excited to announce that our annual field trip will explore the John Day Fossil Beds National Monument in eastern Oregon. During the trip, which will be held 31 May through 3 June, we will stay at OMSI's Hancock Field Station in cabins with bunk beds. A communal bathroom is located in a separate building. Cost is \$150 per person for 3 nights' room plus meals.

We plan to visit the three areas of the Fossil Beds (Painted Hills, Clarno and Sheep Rock) as well as the Thomas Condon Paleontology Center and Cant Ranch Historical Museum. There will be plenty of opportunities for hiking, studying geology and paleontology, taking photos and exploring on one's own. Check out www.nps.gov/joda for more information about the area.

To help us meet OMSI's requirements for final reservations, we have a deadline of 1 March for full payment for the trip, with no refunds after 15 March. Note that we will not consider a person as signed up for the trip until we receive full payment.

If you are interested in going on this trip, please contact Kim Wollter, 541-484-4477 or kwollter@comcast.net, if you have questions, and send payment to her, made out to Eugene Natural History Society, at 3550 Mill St. Eugene, OR 97405.

This is a fabulous opportunity to visit some of the best and most beautiful geological formations in Oregon. We encourage you to join us.

President's Corner

Small by Tom A. Titus

The flooding tide of darkness has technically begun to recede. Yet on a dark January morning in the darkcanyon bottom of winter, this astronomical fact seems trivial. Manic fall harvesting and winter holiday celebrations have passed into history, without even a Mayan apocalypse to spice things up. Instead, the normal, smaller cycles of our lives continue: Coho have spawned and are nearly dead, and chanterelles are becoming orange goo dissipating into the forest duff. The rain is so cold on my bike ride to work it makes my forehead and cheeks ache, while layers of rotten soggy leaves sizzle under my tires. Night presses in from all sides; sunrise is late, sunset is early, and daytime is clad in iron overcast.

I vacillate between being comforted by this seasonal version of a Temple Grandin hug box or becoming completely claustrophobic. My tendency is to hunker by the fire and wait it out. Inactivity has benefits. Words that were sheltering deep beneath a storm of autumn activity can now find their way out. Constant motion gives way to thoughtful intervals in the manner that biological succession transforms rampantly growing brushy hillsides into open old forest. Despite the good things this slowdown brings, claustrophobia wins the day. I need to get out.

Deep snow has finally fallen low in the western Cascades, so I turn west toward familiar haunts in the Coast Range, Parking the pickup at a locked gate, I wander down a logging road running through a large new clearcut. No rain is falling. A gray ribbon of gravel climbs steadily through the bare landscape, bending hard right into mature second growth and then dropping steadily until reaching the floor of a small valley with a broad, level bottom. I know little of geology (although the subject fascinates me and I've always said I'd be a geologist if not a biologist). But I do spend a lot time traveling in the green, jumbled folds of the coastal mountains, and in these parts *flat* is a rare commodity. Most slopes are so steep that the loggers who cut them are life insurance risks, and when the loggers and trees are gone, landslides become as common as acne on a teenager.

As difficult as a horizontal place is to find, a flat place with an ancient forest is exceptional. Yet these two rare Coast Range commodities do exhibit a thin sliver of overlap. Towering before me in the full splendor of ecological climax is a hidden copse of huge Douglas fir, many six feet and more in diameter, with deeply corrugated dinosaur-skin bark. The fir are interspersed with western hemlock and western red cedar, all reaching skyward from this small place that for a couple of hundred of years has been spared the fires and the saws.

Stepping off the road, I swish through uncharacteristically dry salal, negotiating a path among large down logs, unconcerned about distances and straight lines between points A and B. Stopping, I release a long slow breath, a nearly silent respiratory acknowledgement of the privilege of being in this dark cathedral. For once I am not foraging; there is little to look for in January. For once I don't care why this valley floor is flat or what series of bureaucracy-laden forest management decisions saved these trees or how much carbon is sequestered in the old giants or how much nitrogen is fixed by lichens in the canopy or what part of the microhabitat of downed wood is being used by salamanders. Today there just isn't enough

space for this kind of caring in my seasonally constricted brain. I am simply here.

A Winter Wren chatters in the understory to my left. I "pish" at him, and he is accommodating, flying in front of me and alighting between two logs lying across one another in a V shape not more than three arm-lengths away. He is the color of hemlock bark or of brown needles becoming soil or of January shadows at 3 p.m. He is belligerently insignificant, flickering between hiding then not, hiding then not, daring me to find some meaning in his hyperactive golf-ball-sized self. I am awestruck by the cheek of his short upright tail, captivated with his overwintering tenacity, unsettled by his wraithlike ability to vanish and reappear in the blink of his black eye.

The wren follows me home to my chair by the fire. I stare hard at him in my mind until something flickers by on the periphery, as small and fast and weightless as his shadow. There's what I needed! Right there! Ouick, grab it! Hang on, but just for a moment, and only gently! Then for one small instant I get hold of an idea that is really nothing more than a feeling, and it is this: I could tiny my way through winter. I could become so small that when the rains start again I could flit between the drops, so diminutive that I am a burden to no one, so miniscule that my troubles shrink to nothing, so slight that I am released from thinking that winter is somehow an imposition. I could acknowledge my wren-like smallness in a universe of big trees on the edge of a bigger continent drifting on a bigger planet that right now is pointing my end stubbornly away from the sun; recognize that I am a small human sitting here with all the awe my small mind can muster, remembering that my small needs matter only to me and a small number of other small humans with equally small needs. Then I could become the color of deep forest and perch on a huckleberry twig and sing. Ack, who am I trying to kid? I know I will lumber through winter, all 6-foot something, 170 pounds of me, splashing through puddles, splatting headfirst into cold raindrops that run together into equally cold rivulets dribbling down my face, dripping from my chin, sneaking into that pinhole on the lower right leg of my rain pants.

Fortunately we are blessed here; in this wet crease between the mountains and the Pacific real winter is short. In a few weeks chorus frogs will *creak* and the smelly yellow druid hoods of blooming skunk cabbage will emerge from muck in woodland bogs. We'll see the first few wood violets and grouse flowers and green nettle shoots nearly black with chlorophyll. Who knows, maybe a trillium will bloom! It won't be long. Winter is a small thing.

Tearing Apart the Food Web: Pacific Lampreys by Reida Kimmel

For years when Chuck was teaching vertebrate biology, we would collect a few larval Pacific lampreys, Entosphenus tridentatus, to demonstrate a iawless fish, the closest extant relative to the evolutionary base of all vertebrates. Besides lacking jaws, adults in the superclass Agnatha do not have paired fins, gill covers, body armor or scales. They have a sucking mouth, a slight cartilaginous structure in place of a skull, and cartilages along the body axis instead of a bony spine. The larval individuals we collected are even more simplified. They lack eyes and teeth. Cilia in the mouth filter move food items, detritus, diatoms and other tiny particles. Gills, connected to the alimentary canal, shoot out what is not to be digested. The larvae live in tube burrows in slow-flowing streams. When they metamorphose into adults after four to six years they develop eyes and tooth-like structures in their rasping sucking mouths. These adults move out to sea from fall to spring, find prey – fish and marine mammals, even whales – attach, and live for several years by consuming blood and muscle.

Until last month, that was almost all I knew about Pacific lampreys. I knew they were not hagfish, those slimy bottom-dwelling carrion eaters. I knew they were not destructive to fish populations like the invasive American sea lamprey [Petromyzon marinus dorsatus] in the Great Lakes. I thought I knew enough. Boy was I mistaken! In December we attended a conference, "Within our Reach", concerned with problems and restoration in the Willamette River system. One afternoon session seemed intriguing, a lamprey research update. The first surprise, lamprey – "Ksuyus", "Heesu", and other indigenous names – is an important traditional food and medicine. Ksuyus has spiritual importance and many traditional practices and legends center around it. In former times it was fished for in spring and early summer when the adults, which can be as much as thirty inches long, come in from sea to spawn and die. Now the species, protected since 1996, is nearly gone. It has vanished all along the Columbia and Snake Rivers. There is only one remaining fishery, Willamette Falls on the Willamette River. Tribal members from all over the Columbia River system come annually to catch a token number of lampreys, in an effort to preserve cultural and spiritual ties with their past. A very oily fish, the lamprey, fresh or dried, provides lots of calories, a tasty oil, and valuable nutrients like omega-3 fatty acids.

The reasons for the decline of Pacific lamprey are virtually the same as those you hear for the decline of salmon. The dams make the upstream progress of spawning adults and the downstream migration of young lamprey virtually impossible. The larvae's habitat has been devastated. Channelization of rivers, speeding the flow of water and removing peaceful side channels for rearing, has been critical. The larvae's delicate skin and sedentary life style makes them especially vulnerable to death by industrial and chemical pollution. Similar species in Europe, where they have been a stable and cherished food source for millennia, are nearly extinct due to serious pollution problems in most streams and rivers. Certainly overharvest of spawning adults by non-native fishers has played a grim part. Lampreys were harvested by the ton in the twentieth century to feed hatchery fish or to use as fertilizer. One scow could hold 13.6 metric tons of lampreys, and there were many scows. A lack of food at sea probably plays a part too. Lampreys feed on salmon, haddock, pollock, and ground fishes, all intensely fished species in decline.

Today, fisheries biologists from the tribes and U.S. Government are working to restore lamprey populations. There are ongoing efforts to improve water quality in coastal and Willamette-River tributary streams, and there are plans to import lamprey back into the Snake River system. Biologists pit-tag young migrating lampreys and then transport them beyond the Willamette Falls to a mile or so downstream, giving them a better chance of getting to sea. Pit tags emit a signal. Pit-tagged lampreys can potentially provide valuable information about their migrations and age at spawning. However, lampreys are not simple to work with. The population has always been subject to mysterious fluctuations.

Oh well, another sad story about a fish we never knew about anyway. No! Not so! This fish is very important. Scientists have learned so much about it since 1996, and more people should hear the story. It was the tribal peoples who initiated this research and we will be indebted to them if the species is saved from extinction. Larval lampreys are a food source for coho salmon. Close, Fitzpatrick and Li, in a wonderful Fisheries Management article "The Ecological and Cultural Importance of a Species at Risk of Extinction," theorize that downstream-migrating lamprevs may have buffered salmon from predation by fish and birds. Historically, studies showed that the stomachs of predatory species of fish were packed with lampreys. When lampreys were still abundant, a 1959 study of gulls on the lower Columbia River in May, showed lampreys comprising seventy-one percent of the volume of the gulls' diet. Salmon and lamprey

migrate to sea at approximately the same time. When huge quantities of lampreys were available, one can imagine that the predation pressure on migrating salmon at the mouth of the Columbia River and elsewhere would have been much less intense. Many species of birds, mammals and fish, including blue herons, mink and white sturgeon, relish the returning lampreys. This humble, primitive and less-thanappealing species has played an important role in the balance of nature just as have the iconic salmonid

species. In our greed and ignorance we have gravely damaged, but perhaps not destroyed, the species *E. tridentatus*, just as we have wreacked havoc on our wild salmon. The web of life is just that: the weird, the ugly, and the lovely all have vital parts to play. And if we must view all life from our own selfish point of view, I will quote Bernhard Grzimek: "And whoever has eaten "Lamproie a la Bordelaise" [lamprey in red wine with leeks] knows how tasty they can be."

Events of Interest in the Community

Lane County Audubon Society

Saturday, 19 January, 8 am – noon. THIRD SATURDAY BIRD WALK John Sullivan will lead the group to Dexter Reservoir to look for winter ducks and check out the new wetland mitigation project. Meet at the South Eugene High School parking lot (corner of 19th and Patterson) for carpooling at 8:00 am and plan to return by noon. All birders are welcome. A \$3 donation is suggested. As a precaution, please remember not to leave valuables in your car. Questions? Call Maeve Sowles at 541.343.8664 or email: president@laneaudubon.org.

Tuesday, 22 January, 7:30 pm. New Hikes in the Central Oregon Cascades. Author and hiking guru William L. Sullivan takes us down a dozen new trails he discovered in the area between Salem and Bend while researching the newly released fourth edition of his guidebook, *100 Hikes in the Central Oregon Cascades*. Included are paths to a warm springs near Oakridge, a lake with a reflection of South Sister, and a wildflower meadow at Mt. Jefferson. Along the way, expect anecdotes about local history, wildflowers, and outdoor lore. 1645 High St., Eugene.

Mount Pisgah Arboretum

34901 Frank Parrish Rd., Eugene, 97405. Call Peg Douthit-Jackson at 541-747-1504, email mtpisgjp@efn.org, or look at http://mountpisgaharboretum.org/ to find out about current Arboretum activities.

Nearby Nature

Go to http://www.nearbynature.org/events to view NN's calendar, or call 541-687-9699.

Monday, 21 January, 8:30 am – 3 pm. Nature Explorers No School Day Program. Use a compass and a treasure map to navigate from oak grove to riverbank by way of animal lairs and the Trees of Mystery. Learn to read nature's clues as you and your brave companions adventure through Alton Baker Park! Class size is limited to a maximum of 12 kids. For registration information and additional programs in February and April, call 541-687-9699.

Saturday, 19 January and Saturday, 26 January, 9 am – noon. Restoration Celebrations. Join Nearby Nature and a group of energetic University of Oregon students to pull ivy and remove other invasive species in the Whilamut Gateway corridor of Alton Baker Park! Nearby Nature provides the tools and gloves; volunteers provide the energy and muscle! Please dress in layers for the weather and bring a water bottle. Meet next to the Alton Baker Park Host Residence on the Water Wise Garden patio at 9 am. Biking to the clean-up is encouraged and there is a covered bike rack at Nearby Nature.

University of Oregon Museum of Natural and Cultural History, 1680 E. 15th Ave.

Tuesdays and Thursdays, 15-31 January, 3 – 5 pm. New MNCH Volunteer Training. To volunteer with our Public Programs you must attend most of these training sessions. Please let us know if you have any questions regarding this series or our volunteer opportunities in general. Meet at the MNCH Education Classroom. Bring your favorite writing implement. Notebook optional. APPLICATIONS AND RSVP: To Jules Abbott by emailing jabbott@uoregon.edu or call 541-346-1694 (allow time for parking!). Free Admission Wednesdays, 11 am – 5 pm.

Fridays, 1 pm and 3 pm, Guided Tours.

Ongoing Exhibits: 1) Out in Space Back in Time; 2) Tidewaters by Rich Bergeman; 3) Nick Sixkiller, The Man Behind the MIC; 4) Scientific at the Core; 5) Oregon: Where Past is Present

Native Plant Society of Oregon, Emerald Chapter

Monday, 14 January 7:30 pm. Exploring the Flora of Oregon's Willamette Valley. Ed Alverson of the Nature Conservancy will guide us along a tour of the Valley's remaining natural areas. We will learn about its diverse flora, including rarities and endemic species, as well as the challenges to conservation, and ways that people are re-connecting with the natural world that is close at home - helping to ensure its future survival. Location: EWEB Training Room, 500 E. 4th Avenue, Eugene. For more information call 541-349-9999.

WREN

For information about upcoming events call 541-338-7047 or email **info@wewetlands.org**. You can also go to their website: http://www.wewetlands.org/

Cascades Raptor Center

MEMBERSHIP FORM

__Zoology __Other____

Open for Visitors: Tuesday – Sunday. Winter Hours (November - March) 10 am - 4 pm. Handler Talks: Sat & Sun at 1 p.m. Cascades Raptor Center is located in south Eugene on the side of Spencer Butte. Birds are on display in large, outdoor aviaries viewed by walking winding, hillside trails. These woodland, gravel paths have a moderate grade in some locations. Admission Fees (which help to feed the birds): Adults: \$7, Teens/Seniors: \$6, Children under 12: \$4. Free to members. If admission fees are a problem you can go to your local public library and check out a free family pass, good for up to \$25.

North American Butterfly Association – Eugene/Springfield Chapter

Monday, 11 February, 7:00 pm – refreshments; 7:30 – presentation. "Butterflies and Other Invertebrates of South Florida" By Rick Ahrens. Butterfly enthusiast, long-time birder, and local naturalist Rick Ahrens will share his observations of and ruminations about selected invertebrates of the subtropical part of the Sunshine State. Rick's talk will include butterflies, interesting spiders, beetles, true bugs, and a few birds thrown in for good measure. EWEB Training Center at 500 4th Ave., Eugene. Free, all are welcome.

We welcome new members! To join ENHS, fill out the form below. You will receive *Nature Trails* through December of this year. Membership payments allow us to give modest honoraria to our speakers, as well as to pay for the publication and mailing of *Nature Trails*. Our web address: http://biology.uoregon.edu/enhs/

Name Address _____ State & Zip E-mail (if you want to receive announcements) I (we) prefer electronic copies of NT rather than paper copies. Yes No If yes, email address (if different from the one above): **ANNUAL DUES**: Contributing 20.00 **Annual dues for renewing members** Family 15.00 are payable in September. Individual 10.00 **Memberships run from September** Life Membership 300.00 to September. Contribution Generosity is encouraged and Make checks payable to: The Eugene Natural History Society appreciated. P.O. Box 5494, Eugene OR 97405 The following information is voluntary, but appreciated: Would you like to: lead field trips teach informal classes work on committees? What would you like to hear a talk on? Do you have special experience in natural history: INTERESTS: Archaeology Astronomy Bird Study Botany Conservation Geology History of Science Herpetology Meteorology Mosses & Lichens Mushrooms Nature Walks Wildflowers





Charred bullrush seed





ENHS Schedule of Speakers and Topics for 2012-2013

18 Jan. 2013 - Marge Helzer

15 Feb. 2013 – Roy Lowe

15 Mar. 2013 – Gail Baker **19 Apr. 2013** – Josh Roering

17 May 2013 – Jason Dunham

- Rimrock Draw Rock Shelter: Stones, Bones, and Seeds.

- What Artifacts Tell Us About Life 10,000 + Years Ago

- Tidal Marsh Restoration on Bandon Marsh National Wildlife Refuge

- A Plant Ecologist's Dream Trip: The Floral Diversity of Australia

- Eel River Pleistocene Lake

- Bull Trout

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