

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.



Argonauta argo. Comingio Mercuriano (1845–1915)

Tentacle Empire: A Natural History of Cephalopods

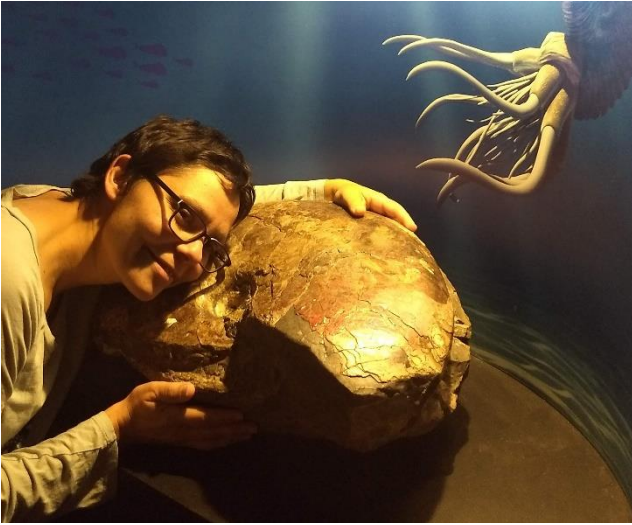
Danna Joy Staaf

San Jose, California

Friday, 15 September 2023, 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, 7:00, 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>



About a year ago, long time ENHS member Chuck Kimmel lent me *Monarchs of the Sea* by Danna Staaf, which he had just read, about the evolutionary history of cephalopods (octopuses, squids, cuttlefish, and nautiloids). It was one of the most interesting books I have read in a long time. Many biologists have a special regard for cephalopods, not only because of their “braininess” (they have the largest ratios of brain to body mass of any invertebrate, greater than that of many vertebrates) but because of the variety and strangeness of their sizes, shapes, and life histories. Cephalopod body sizes range from giant squids, the largest invertebrates on the planet growing up to 60 feet in length, to the inch-long pygmy squid. The colossal squid does not get as long as the giant squid but can weigh twice as much (>1,000 lb). These highly successful and diverse animals are also wrapped in mystery; the first time a living giant squid was seen was in 2006!

Dr. Danna Staaf describes herself as always being a “nature kid,” climbing trees in pursuit of insects, birds, and squirrels and keeping rats, turtles, and snakes as pets. Growing up in Los Angeles, she became interested in marine biology and cephalopods by the time she was 10 years old. Her mother, a homemaker and musician, and her father, a computer programmer, were wonderfully supportive and nurtured her budding interest in marine biology by taking her to the Monterey Aquarium (where she got acquainted with her first Pacific octopus) and helping her set up a saltwater aquarium at home. By age 12 she had her first pet octopus and began taking scuba lessons.

After high school, she enrolled at the University of California, Santa Barbara, where she was accepted into the College of Creative Studies (CCS) program, essentially a “graduate school for undergraduates.” The CCS was designed for a lucky group of about 300 students who felt they knew what they wanted to pursue. These students were allowed to develop their own research projects but also were required to take a broad range of liberal arts classes. Essentially, the CCS was a small liberal arts college embedded in a large research university. Danna describes it as a “magical experience,” especially the opportunity to work in the Santa Barbara Museum of Natural History.

After graduating with a B.A. degree in marine biology, Danna was accepted into a graduate program at Stanford University where she studied Humboldt (or jumbo) squid with cephalopod biologist Dr. William Gilly at the Hopkins Marine Station. While she was there, the focus of the Gilly lab gradually shifted from neurobiology (taking advantage of the giant neurons for which squids are famous) to more “whole animal” studies, including ecology and life history: “Why are they like they are?” Danna decided to work on reproduction and development (“squid sex and babies”), which like many aspects of squid biology is kind of mind blowing. One issue concerns their incredibly fast growth rate whereby the squid take <1 year to grow from a hatchling about the size of a grain of rice to a 6-ft-long 100-lb monster of the deep.

After earning her Ph.D. degree, Danna faced the same conundrum that challenges many new graduates: What to do next? She decided she loved teaching and especially outreach more than scientific research per se, so instead of going the university professor route she became a professional writer. She has been prolific and successful ever since, as a writer, artist, and scientist. To quote from her Linked In bio: “Her writing has appeared in *Science*, *Atlas Obscura*, and *Nautilus*. Her first book, *Squid Empire: The Rise and Fall of the Cephalopods* (now retitled *Monarchs of the Sea*), was named one of the best science books of the year by NPR’s Science Friday. Her first book for young readers, *The Lady and the Octopus*, was on Booklist’s Top

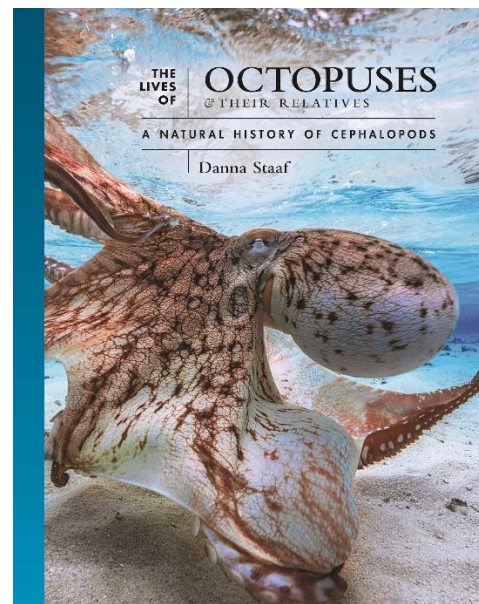
Ten History Books for Youth and the School Library Journal's Best Books of 2022.”

A more recent book, published this last June, is *Nursery Earth: The Wondrous Lives of Baby Animals and the Extraordinary Ways They Shape Our World*, her contribution to the relatively new field of ecological developmental biology. She is now working on *The Lives of Octopuses and Their Relatives: A Natural History of Cephalopods* (part of *The Lives of The Natural World* book series), which she describes as a “coffee table book.” Her work has appeared in numerous textbooks and scientific journals, including the *Journal of Experimental Biology*. She has even contributed to a guide for how to write science-inspired science fiction (if you ask me, it's about time that aliens looked like something other than primates)!

She described her upcoming talk on octopuses to the ENHS this way. “Octopuses and their relatives draw our interest with a magnetic, almost mystical pull. They are jet-propelled rockets, instantaneous shapeshifters, and expert tacticians. They embody an incredible contradiction: at once deeply alien and intimately familiar. Their bodies seem nothing like our own (the lack of bones, the distributed brain, the three hearts, the blue blood, the color-changing skin...), but their minds, if we can agree that these exist, seem strangely similar to ours. Octopuses exhibit curiosity, creativity, even cross-species companionship. How did such

recognizable traits come to exist in a lineage that diverged from our own over 500 million years ago? We will dive deep into the evolutionary history of cephalopods—octopuses, squids, cuttlefish, and the mysterious nautilus—to discover how we came to share today's world with this astonishing diversity of clever and colorful creatures.” Please join us on Friday, 15 September at **7:00 pm in 221 Allen Hall on the University of Oregon campus** to hear Danna Staaf and “Tentacle Empire: A Natural History of Cephalopods.” —Stan Sessions

Note: Copies of Danna's new book will be for sale after her presentation. Please bring cash or check.



The View from Above by Whitey Lueck

Over the nearly three decades that I taught field classes in natural history throughout the West—from 1986 through 2014 from the Canadian Rockies to Mexico—I visited a phenomenal range of habitats, from the coastal rainforest of the Olympic peninsula to the desert landscape along the Sea of Cortez and from sea level to nearly 10,000 feet. I also experienced many kinds of weather and saw an amazing variety and abundance of wildlife.

Most of the 80 different classes I taught, I taught “cold.” That is, I'd never before visited the area myself, so what was new to the people traveling with me was usually new to me, too. Oh, sure, after doing this for so long and becoming familiar with landscapes throughout the West, I had some idea of what we might see

and could plan my itinerary accordingly. But still, there were always surprises, and almost all of them were good ones.

When considering what classes to offer for the 1995 field season, I decided I'd like to take a group to Oregon's north coast. I'd taught field classes along the central coast just west of Eugene fairly often and made a half-dozen trips to Oregon's south coast, but the north coast would be new territory for my students and for me, so off we went.

For our base, I chose to camp at Cape Lookout State Park. We had 4 days to visit sites as far north as Cape Meares. On one of the days, we were able to hike directly from our campground to nearby Cape Lookout.

The cape is a high and narrow point of land that juts out into the Pacific for more than a mile.

Its almost vertical sides drop off several hundred feet to the ocean below. On a typical spring or summer day, when the wind is from the north-northwest, the waves crash against the base of the cliffs on the north side of the cape, but the water off the south side—out of the wind—is calm. The trail out to the cape's tip follows the south side, so hikers, too, are out of the wind.

On Sunday, 21 May, we made our way toward the cape's tip, but we never reached it. Along the way, we stopped for a snack near the trail, with a view toward the south of the pristine Oregon coastline and long lines of surf breaking on the beach. At some point during our rest stop, I walked a little closer to the cliff's edge, and when I looked down into the glassy smooth water near the base of the cliff, I couldn't believe my eyes.

There, suspended motionless in the clear water, were four Pacific gray whales. Three of them were adults and one was clearly a young calf that had been born in one of the calving lagoons on the west coast of Baja California a few months earlier and was making its first trip north. I didn't call out immediately to the rest of

the group but just squatted there at the edge of the cliff and watched until I saw some movement. Although the whales may have been sleeping, they did occasionally one by one move briefly up to the water's surface. Because of their distance from me, it took a second or so after each whale surfaced for me to hear a faint "poof" sound as its dual airholes opened and it took a gulp of air before slowly and silently dropping back beneath the water's surface.

Soon, the whole class was lined up along the edge of the cliff, silently observing what was going on so far below. Digital cameras and iPhones didn't exist back then to get in the way of everyone's experience. Although I'm sure several people eventually took photos, I didn't. All I have is the memory of my experience that day, when for more than a half-hour, eight bipedal hominids—resting on our way out to the cape's tip—stood, squatted, and sat transfixed along the cliff top of Cape Lookout, as four Pacific gray whales, about halfway through their long migration north to the Chukchi Sea off of Alaska, also rested in the clear water far below.

Plodding Toward the Anthropocene

by Tom Titus

Just north of Paisley Caves in south-central Oregon, July sunshine bakes the featureless desert floor that stretches west across Summer Lake Basin to the foot of Winter Rim. I park my dusty pickup next to a two-track road delineated only by ruts running like straight parallel pencil lines into saltbush and big sage. I came out here to run. And because these days I need to run slowly, I've decided to venture out into the building heat of midday with the temperature creeping into the low 90's. Heat shimmer distorting the desert air is a decent representation of the mental acuity that led to this decision. At least I'm assured of solitude. The GPS on my wrist catches a signal, and I jog into a silence broken only by muted footfalls onto gray dust.

The area around Paisley Caves is an ecotone, a transitional state between two habitats and the biological communities that they support. An ecotone can be minute, as in the moisture gradient along a crack in a sidewalk, or large, as in a transition between two bioregions. Paisley Caves is an ecotone between true desert and

sagebrush-juniper steppe. The basin harbors desert species that exist no further west, where they are excluded by a physiographic combination of altitude, latitude, longitude, and climate. The area also transitions from the dark rimrock of exposed Columbia River basalts into open sandy soils on the desert floor.

Ecotones reinforce my personal predilection for messiness. They are complex places that defy black-and-white definitional categories. The biological richness of ecotones has led to a general appreciation of transitional states, and the concept has now been coopted (I think justifiably) in a variety of ways. A literary journal carries the title *Ecotone*

(<https://ecotonemagazine.org/>). Ecotone Inc. is an environmental restoration company. Today I'm a sweaty human crossing an ecotone of life; no longer middle aged, not yet geriatric, but happy to accept my senior discounts.

The heat gives me a reason to move at a stately pace, which has benefits beyond just surviving the trip. The gentle drift of Mazama ash has recorded like a hot snowfall the signs of passing animals. Long-nosed Leopard Lizard has

plowed a thin furrow with her tail while searching for any animal that will fit into her mouth. Ord's Kangaroo Rat has excavated a dusty divot where he wallowed and kicked to coat himself with dust to make his skin more impervious to water loss. Coyote has squatted and dropped his scat, black and glimmering with bits of bone and hair, the remnants of lives gone to support his own. A thicker groove undulates across the gray softness where Striped Whipsnake traveled through on her hunt for leopard lizards. Between the tire ruts, a cavernous burrow hides Badger, who shelters in cool underground darkness, waiting for nightfall to surface and then excavate rodent burrows. Pronghorn, the fastest mammal in North America, has left her heart-shaped tracks in the right rut where she strolled westward, perhaps headed to the opposite side of the basin to spring water pooling beneath Winter Rim.

My mind begins to spin like alkali dust deviling off the distant playa. Scrutiny dissolves boundaries. The animal tracks begin to fray the edges of my illusion of otherness. Biology and metaphysics teach us that we are all mobile ecotones. Each of us—lizards, snakes, badgers, and pronghorns—have fuzzy edges in space and time. No one can point precisely to the place in space where my sweating skin and the arid air that surrounds me begins or ends. Nor can anyone point to the time when a life began; each of us began as a series of tiny molecular events leading incrementally to a person. Even death is a transitional process that starts when we are born and will eventually convert us back to the dusty elements of which we are composed. Viewed closely, the vessel that carries our life is so porous that it ceases to be a container, except within our exalted minds.

These tracks of more-than-human passing are short lived and will vanish with the next dust storm or thundershower. Despite this transiency, the species who left them may survive into a future beyond the newly christened Anthropocene epoch. The so-called Age of Humans is debated by natural philosophers. Anthropocene proponents point to many measurable and accelerating human impacts on the biosphere: increasing atmospheric carbon, cattle, sea levels, PCBs, and pesticides; decreasing fresh water, forests, fish, arable land,

food, birds, and mammals. Opponents argue that naming an epoch after ourselves is a testament to the human hubris that brought the biosphere to this level of destruction. Perhaps public acknowledgment of the Anthropocene will spur the change in consciousness necessary for recognizing an appropriate human presence in the living world that engages reciprocity and the rights of other-than-human beings to persist. Regardless of our position in this altogether anthropocentric debate, the wave of human influence will build, peak, and slide away into the future. Like all other individual entities, it has fuzzy ecotonal boundaries.

This afternoon I am the Anthropocene in motion. Slow motion. Heat and sweat build inside my long-sleeved shirt made of quick-dry, ultraviolet-proof fabric. It isn't the finest garment that petroleum extraction can produce, but it was on sale. My orange GPS dutifully logs a satellite message that I have covered 2 miles. The device is ancient by modern technological standards. Even so, it remains a monument to the Anthropocene by catching signals from a handful of satellites circling the planet, a small part of the 170,000,000 pieces of space junk that now pollute even our extraterrestrial surroundings. I squelch a momentary urge to hurl this plastic and silicon marvel of technology into the desert where it could become part of the archeological record of this human-centered age. Then I wonder who would be doing the excavating.

My sweaty shirt returns me to the physicality of desert heat and sun. An overheated brain thinks only of turning around. I begin slogging back over my footprints in the soft soil. My pickup has vanished. My rational self realizes this is an illusion of distance and topography. But the animal heart that powers my plodding body wonders if I could make it 6 miles across the basin to the nearest waterhole. Finally, a glint of metal in sagebrush. Even with the windows open the cab gushes overheated air out the open door. An armistice with Anthropocene technology is quickly achieved. My insulated bottle is a technological marvel holding cold water that wets my mouth and throat. I turn my petroleum-powered rig around and retrace the road back to Paisley. At the store lives a freezer kept cold by compressed freon. Inside it, an ice cream bar is waiting.



Summer Lake Basin. Tom Titus



Badger hole, Summer Lake Basin. Tom Titus

Our meeting this month is at our new time and location: 7:00 pm at 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.

Selected Events of Interest

(for complete listings and details, see individual websites)

***COAST CLEAN UP DAY, 23 Sep.** Enjoy a trip to the coast and play a part in keeping our beaches beautiful! Mile 186 is the coastal mile sponsored by ENHS. This bit of sand, tidepools, and rocks can be accessed from Stonefield Beach by the mouth of Ten Mile Creek. Or take your clean up gear, including bags and gloves, to any beach you love and get to work!

- **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, February–November, 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, March–December, 8:00am–4:00pm. Living River Exploration Days at Green Island. Connect with nature in this special habitat for beavers, river otters, and >150 species of birds.
Sunday, 1 Oct., 3–5pm. Attending This Earth: Poetry, Ecology, Gardens, and Art. Join artists, musicians, authors, and the editors of *Cascadia Field Guide* at Tsunami Books, Eugene. Cosponsored by ENHS and the McKenzie River Trust.
- **Mt. Pisgah Arboretum** <https://mountpisgaharboretum.com/festivals-events> or 541-747-3817. See the website for programs and information.
Sunday, 10 Sep., 8–11am. Bird Walk. With Mieko Aoki and Julia Siporin. Limited to 18 attendees. Preregistration required. Members FREE, nonmembers \$5.
Saturday, 16 Sep., Family Walk: Magnificent Mammals. Search for our furry neighbors and learn to recognize the signs they leave behind. Finish the walk by creating a gross but delicious scat cookie to take home, shaped to look like the droppings of your favorite mammal! Members and kids under 4 are FREE, nonmembers \$5 per person.
Thursday–Saturday, 21–23 Sep., 9am–noon. United Way Days of Caring Work Party. We're joining United Way of Lane County in hosting volunteer opportunities for their annual Days of Caring event. Tools, gloves, and a parking pass will be provided to volunteers (bring along a water bottle). [Sign up here!](#)
Friday, 22 Sep., 10am–noon. Gall Tour. With August Jackson. Limited to 18 attendees. Preregistration required. Members FREE, nonmembers \$5.
Sunday, 24 Sep., 10am–noon. Insect Tour. With Karen Richards. Limited to 18 attendees. Preregistration required. Members FREE, nonmembers \$5.
Sunday, 29 Oct., 10am–5pm. 2023 Mushroom Festival. Tickets by presale only, available beginning in late September.

- **Lane County Audubon Society** www.laneaudubon.org or 541-485-BIRD; maeveanddick@q.com or 541.343.8664
Saturday, 16 Sep. Third Saturday Bird Walk. Time, location, and leader TBA. Check the website.
Friday, 22 Sep., ca. 7:30pm. Bon Voyage to the Vaux's Swifts. Agate Hall Chimney, 17th and Agate, Eugene.
Tuesday, 26 Sep., 7pm. Inclusive Birding, with Sarah Merkle, McKenzie River Trust. Campbell Center, 155 High St., Eugene. In person and Zoom.
- **Native Plant Society of Oregon, Emerald Chapter** <https://emerald.npsoregon.org/>.
Monday, 18 Sep., 7–9:30pm. The Nature of Bend. Presenter: LeeAnn Kriegh. In person at Amazon Community Center, 2700 Hilyard St, Eugene.
Monday, 16 Oct., 7–9pm. Ancient Grasslands. Presenter: Bart Johnson. In person at Amazon Community Center, 2700 Hilyard St, Eugene.
Day To Be Determined, 19–26 Sep., 8:30am–5pm. Field Trip. Monitoring *Abronia umbellata* with Siuslaw NF. Leader: Armand Rebishke. Armand will choose the exact date soon and let interested people know. Meet at SEHS at 8:30am to carpool to the coast or meet at Way Myrtle CG at 9:30 am.
- **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.
- **Museum of Natural and Cultural History, University of Oregon** <https://mnch.uoregon.edu/museum-home>
Ongoing exhibits: Oregon—Where Past Is Present; Explore Oregon; Magic in Medieval Europe.
- **Friends of Buford Park and Mt. Pisgah** <https://www.bufordpark.org/> or 541-344-8450. See the website for programs and information.
- **WREN (Willamette Resources and Educational Network)** <https://wewetlands.org>
 See the website for programs and information.

Keep your copies of *Nature Trails* coming and support our efforts to provide fascinating natural history presentations every month! Annual dues for ENHS memberships are payable in September. Generosity is encouraged and appreciated. A pre-addressed envelope is enclosed with this issue of *Nature Trails* for your convenience. You can also renew and pay electronically at <https://eugenenaturalhistorysociety.org/join/annual-membership-payment/>

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

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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 **7:00 pm** and/or on Zoom. Locations are noted in *Nature Trails* and on our website.

ENHS Officers and Board Members 2022–2023

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2023–2024 Speakers and Topics

15 Sept.	Danna Staaf	Tentacle Empire: The Natural History of 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	Antarctic Icefishes
16 Feb.	Ryan Tucker-Jones	Soviet Whaling and Science
15 Mar.	Ron Larson	Natural History of Belize
19 Apr.	TBA	(cosponsored with NPSO)
17 May	Marli Miller	Amazing Geologic Sites in Oregon