

Nature Trails

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Dinosaur Colors and Vocalizations



Julia Clarke at the Flaming Cliffs, Gobi Desert, Mongolia

Julia Clarke

**Department of Geological Sciences, George Jackson School of Geosciences,
University of Texas, Austin**

Friday, 17 September 2021, 7:30 p.m.

The Eugene Natural History Society invites you to their September Zoom meeting. The Zoom meeting will open at 7:00 but our meeting will begin at 7:30. This allows everyone time to get connected and join in informal conversation. Time: 17 September 2021 07:00 p.m. Pacific Time (US and Canada). Join Zoom Meeting:

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

We had hoped to return to 100 Willamette this fall, but given the current state of the pandemic, the Eugene Natural History Society will continue to hold meetings via Zoom until it is safe to meet in person. We will use the same link for each meeting unless otherwise noted. The current link can always be found at eugenenaturalhistorysociety.org. Thank you for your continued support! August Jackson, President, ENHS

Julia Clarke's first dig was in her parents' backyard in San Francisco. The young Clarke uncovered an old spoon. This very-late-hominid artifact was uninteresting—she liked the rocks she found better, perhaps an early indication of the general direction her professional life would take.



After high school in the Bay Area, Clarke went east to Brown University. The school was a perfect fit; she fashioned her own course of study, blending her interests in writing, the Spanish language, biology, and geology. Her BA, granted *magna cum laude*, is in biogeology and comparative literature. While at Brown, Clarke took a class on the Cretaceous/Tertiary Boundary, which covered the Cretaceous–Paleogene (K-Pg) extinction event. The course hooked her on paleontology.

Following Brown, Clarke worked in the U.S. State Department for a year. She had won a Fulbright Research Fellowship, “Naturalizing the Nation: Scientific Travel Writing and Nationalism in 19th Century Argentina.”

Clarke next spent time at the American Museum of Natural History. There she met Mark Norell, a paleontologist who became her thesis advisor at Yale University. She emerged from Yale with a PhD from the Department of Geology and Geophysics. For her thesis research she studied the morphology and taxonomy of *Ichthyornis dispar*, a bird that lived in the Cretaceous period, a fossil of which was found by Othniel Charles Marsh in the 1880s in Kansas.

Clarke's first faculty appointment was at North Carolina State University and the North Carolina Museum of Natural Sciences. She now holds multiple positions: Research Associate, American Museum of Natural History, Department of Paleontology; Research Associate, Field Museum of Natural History, Department of Geology; and the John A. Wilson Professor and Howard Hughes Medical Institute (HHMI) Professor in the Jackson School of Geosciences, University of Texas at Austin.

The fieldwork she began while an undergraduate student has taken Clarke to many remote places. She has dug for fossils in Peru, Chile, Argentina, and Antarctica, in addition to the eight summers she has spent in the Gobi Desert in Mongolia.

Clarke's contributions to science have been fundamental. Her research has been supported by the

National Science Foundation without interruption since 2004. Other support has come from the Royal Society, the National Geographic Society, and the Gordon and Betty Moore Foundation. One of her colleagues called Clarke a “transformative ornithologist” and for good reason. Of her more than 100 publications, ten have been in *Science* and *Nature*, arguably the two most prestigious scientific journals in the world. In 2016 she was granted the Humboldt Research Prize, a career achievement award from the Humboldt Foundation. She is an Elective Fellow of the American Ornithological Society, the Anatomical Society, and the Royal Society of Biology.

Her work has been central to the now widely held view that birds are living dinosaurs. The K-Pg extinction event did in *almost* all dinosaurs, but a group of avian dinosaurs—the predecessors of modern birds—survived the catastrophe.

When Clarke was new on the scene the fact that some dinosaurs had feathers had only recently been established. Now, hundreds of dinosaur fossils with clear evidence of feathers have been found. Clarke's group has contributed ground-breaking work looking at melanosomes from fossilized dinosaur feathers. Melanosomes are packages of melanin, the most common basis of color across many taxa of living animals. One of Clarke's collaborators showed in 2008 that melanosomes can fossilize. Analyses of fossilized melanosomes in dinosaur feathers have shown that dinosaurs such as *Caihong juji*, first reported by Clarke and co-workers in 2018, sported colorful outerwear. Egg-shaped melanosome fossils resemble those in feathers of living birds with a rufous color. More elongated melanosomes suggest black. Some feather fossils contain hyperelongated melanosomes, indicating their feathers were iridescent, reminiscent of the multicolored sheens of modern birds such as ducks. Further, the work of Clarke and others has shown that the feathers weren't just for flying—these animals had feathers long before the evolution of flight, implying other functions.

Other possibilities: display, camouflage, insulation.



Caihong juji

Clarke's discovery of a syrinx in an avian dinosaur is an excellent example of how her attention to detail and her curiosity have led to her important advances. The syrinx is the organ living birds use for vocalizations. Off and on for about four years she had been studying a fossil of *Vegavis iaai*, an ancient bird that lived about 65 million years ago. She was about to send it back when she gave the CT scan one last look and noticed the tiny bone that turned out to be the syrinx. Re-examination of other feathered dinosaur fossils revealed more syrinxes. These findings have led her into paleoacoustics, the study of sound-making in ancient animals. To learn what they might have sounded like, Clarke and collaborators have focused on the syrinx in existing birds. A bird with a syrinx shaped like *this* can make a sound like *that*, so this avian dinosaur, with a syrinx shaped like *this*, may have sounded like *that*.

Clarke wears several hats in her position. University faculty are not only involved in scholarly research, they have an obligation to make their scholarship available to the interested public. That Clarke takes this part of her position seriously is amply demonstrated by the long list of her presentations to laity. She has received several awards for her excellent outreach and extension service. A wonderful example is her narration of

"The Origin of Birds"

<https://www.youtube.com/watch?v=z4nuWLD2ivc>.

It's less than twenty minutes long. Give it a listen.

Besides wide recognition for her research and outreach, Clarke has been honored many times for her teaching excellence. And how about this? HHMI granted her a *million dollars* for a five-year study of a different kind of pedagogy. Her grant proposal was entitled "Teaching Curiosity to Question Through an Integrated Curriculum Focused on Tiered Mentorship and Experiential Learning."

We are in for a rare treat for our first program of the season. The bird scientist Julia Clarke is herself a rare bird, possessing a powerful intellect but eager to share her growing body of knowledge with anyone who is genuinely interested. Her enthusiasm is off the charts. She got more animated—and funnier—the closer we got to the end of our half-hour chat. I asked, "What's your favorite bird?" She gave me several, including acorn woodpeckers and grackles (grackles?!). And then she said, "I love a good pelican." How can you not fall all over yourself to hear a presentation by somebody who comes up with a line like that? Use the link on the cover to join us on Friday, 17 September to hear "Dinosaur Colors and Vocalizations" by Julia Clarke. John Carter

Cycles and Circles Cynthia Pappas

The evening grosbeaks have returned to our feeders this gray November day. It is a celebration of the seasonal cycle. Like neon advertisements, they sport lime-green dayglow beaks and yellow-and-black



plumage. They are not quiet either. As they convene, they sound like they are starting up their engines with a whirring *reet, reet, reet*.

I am in the living room when I hear a loud gunshot sound against the kitchen window. All the evening grosbeaks are going crazy, calling in that hoarse metallic sound. I'm guessing the window has broken on impact. I look out the huge, still-intact double hung window and see a bird on the ground near our kitchen steps. It is on its back, doing a sickly imitation of a snow angel on the concrete. It is gasping for air. Should I go out and turn it over so it can right itself, or has it broken its neck with the impact against the window? I don't want to startle it and make matters worse, so I wait.

Five minutes later I hear a second slam against the glass and wonder if there is a mass suicide going

on. On high alert, I look out the window and realize this second bird has suffered a significant loss of feathers and is sitting in shock on the gravel near the kitchen steps. What the heck is going on? Suddenly all is quiet at the feeder. A cooper's hawk or sharpie (sharp-shinned hawk) must have swooped in for an easy breakfast. Both these injured birds tried to escape and flew into the kitchen window, unable to gain enough height in their moment of stress to miss the house. I keep the dog inside, giving the two birds space to recover, if that's possible.

Just yesterday as I pulled into our driveway I noticed a large black Lab sitting placidly in our neighbors' front yard near the apple tree. Something struck me as odd about it and I backed up to get a better look. It was a huge beaver with a bright red apple in its mouth! I haven't seen one that size since the flood in 1996 when an exhausted beaver managed to eddy out of the creek rapids, his home destroyed by the floodwaters.

Farm life. I wouldn't have it any other way. But it does test my soul and my heart. Do we capture the raccoon in our garden that has been consuming our corn crop? Should the deer family of six get their fill of beans and sugar snap peas before we find a way to permanently chase them off from the garden? After

all, life is a balance. We have displaced these animals by living here on the river.

But there's always work to be done to distract me from getting too caught up in the emotions that come with caring about animals. Before I moved to the farm, a stillbirth calf would have broken me in two. Being witness to heifers shot between the eyes on butchering day would have sent me to bed for days. I still sob. Living close to the land, not apart from it, has somehow inured me to this dance between life and death and inoculated me from being overwhelmed by sadness. There is grief and celebration both.

Cycles and circles.

I find myself apologizing to the covey of California quail we have living near our house. I go out to mow the lawn and they erupt in a flurry of wing, with their awkward low flight to the nearest cover. I hear the warning cry of the adult male when I get too close to the boxwoods. I say, "I'm just out here mowing the lawn. I have no ill intent." Their daily pattern is to move from the cover of the rhododendrons to the cover of the boxwoods, then bullet across the yard to the feeder. They eat the sunflower seeds that have fallen under the feeder while the male sits on the top of the garden gate alert

for any hawks overhead. At dusk, they move into the vegetable garden under cover of the dormant raspberry row. When we come out the back door to sit in the hot tub at night and let the dog out to pee before bedtime, the quail rush out from their cover and fly in their low frantic arc to roost in the cedar tree for the night.

We heard our first great horned owl of the season. Calling *Hoot. Hoot. Hoot.* Who? Who? Who? The male sounded like he was somewhere near the barn. The next morning we investigated and found remnants of two dead quail on the dirt floor of the barn.

Cycles and circles.

The grosbeak has miraculously managed to turn over onto her feet. She is sitting still, gathering herself. Fifteen minutes later she has flown into a nearby tree. The second bird is much worse off, and I wonder if it has a concussion. Many of its tail feathers are missing, strewn about the steps leading to our kitchen door. George gently coaxes it into a nearby tree so it is protected from the hawk's eyes. Where has the hawk gone? Given up? I let out a deep breath. Wishing I could cure all things.

Celebration and grief, intertwined.

Ghost of Summer Tom A. Titus

The summer of 2021 died peacefully in the wee hours of a mid-August morning. I thought the patter of rain outside the bedroom window was a dream. Temperatures of over 100 degrees a few days before were replaced by low 70s, with 80s forecast for at least a week. The ghost of summer had arrived. Overnight, our season of anxiety had become a much cooler shadow of its overheated self.

Ten years spent in the summer sauna of the Midwest has given me a profound sense of gratitude for our clear-eyed days, low humidity, and luxuriant multitude of greens. Those easy-going months of summer are but a memory. On June 27, Eugene reached an unprecedented 111 degrees. I put Mom in the air-conditioned car and drove to the Johnny Gunter place in the central Coast Range, where the front porch thermometer registered 112 degrees. I was convinced the barn swallow family nesting in the garage would be killed by the heat.

In early August I was driving east on I-105 when the plume from the Middle Fork Complex fire east of Oakridge blossomed into the stratosphere like an earthbound cumulonimbus. The smoke appeared to be just over the ridge from Mom's place. The plume

produced a moment of PTSD. Only a year had passed since the Holiday Farm Fire raced down the McKenzie Valley. My brother and I worked for three days in thick smoke to make her place more fire-resistant.

A collective cloud of grief years in the making has gathered over the summer of 2021. Fellow ENHS Board member David Wagner eloquently captured the multitude of crises in his August *Eugene Weekly* column "It's About Time." The treatment of ecological grief is now attracting a growing group of therapists, and published papers on the subject are hitting mainstream journals such as *The Lancet*. My grief comes from staring into a hotter and drier future. More drought. More heat warnings. More fires. I'm accepting the real possibility that the Johnny Gunter house may burn.

Grieving is a critical emotional process for dealing with loss. But danger lurks when our grief becomes all-consuming and monolithic. Life can become a joyless garden that germinates despair, hopelessness, and nihilism. Our emotional survival depends upon remaining connected with joy, even and especially in this diminished world. *Nature Trails* editor John Carter sent me a recent essay by Margaret Renkl, a guest columnist for the *New York*

Times, entitled “I Don’t Want to Spend the Rest of My Days Grieving.” Renkl powerfully acknowledges a world bereft from climate change. Then she asserts that life is too short to remain in sorrow and describes the living beauty of summer in her native southeastern United States: lightning bugs, singing katydids, goldfinches on black-eyed Susans, and much more.

This summer my joy came from the barn swallows nesting in the garage at the Johnny Gunter place. A pair of adults arrived as usual in May and set up housing in one of several mud cups plastered in the rafters. On each of my weekly arrivals, they sliced with sickled tails into the open front of the garage. From the electrical wire above the garden, they slung their chattering barn swallow rebuke, their backs a glimmering incandescence of navy blue. I worried about disturbing them when I fired up the engine on the portable sawmill just outside the garage. I began to push the riding lawnmower from inside the garage into the parking area before starting it. I thought the nestlings would die in that oppressive late June heat. All summer the pair scolded. All summer I fretted about whether they were spending enough time on the nest to hatch a brood. All summer they stayed the course. And all summer I have wondered at the miracle of barn swallows. How have they managed to occupy this garage for these twenty-five years I have been coming here? How do they decide when to return? How are those mud cups passed on to successive generations of swallows? How do they determine when to leave? Where do they overwinter? How much better does my garlic grow when fertilized with barn swallow poop?

Finding barn swallow joy in a withered world is not an antidote for grief—grieving is not something to be painted over. Every being that has been lost occupied a unique place in space and time, whether a person dead in a Louisiana hurricane, a species now extinct, or that special forested valley now blackened by fire. Losing them is not something we should “get past.” Healing is not forgetting—it is a process of reforming our lives around the inimitable hole left in the wake of their departure. In her foreword for the collection *Old Growth* (published by *Orion* magazine), Robin Wall Kimmerer writes: *Paying attention to suffering sharpens our ability to respond. To be responsible. This, too, is a gift, for when we fall*

in love with the living world, we cannot be bystanders to its destruction. In other words, to be *response-able* we need to stay connected with our loss and remain conscious of what we are losing. Our sorrow is vastly important to our future.

In this admixture of grief and joy, I find myself wondering if we could hold both emotions in our awareness simultaneously. Could we, with our partitioned western brains, engage in a feeling that melds both grief and gratitude, or sorrow and joy? Some psychologists champion a concept of duality, in which deep grieving is experienced along with joy and hope. But achieving duality stretches my emotional imagination. I do remember experiencing something like grief/joy that left me sobbing uncontrollably. The people around me assumed I was grief stricken, even though there was an intense joy. Perhaps we might learn to strap these conflicting but necessary emotions tightly together. Then when we encounter the grief of lung-damaging wildfire smoke we quickly remember the liberation of a wide-eyed smoke-free summer sky. Regardless of how we conjoin these emotions, a constructive future requires that we both remember our grief and find our joy.

By late July three barn swallows had fledged. My chest became more spacious, partly in joy, partly in relief that they had made it through despite the heat and my weekly interruptions. Over the weeks, they spent increasing amounts of time airborne above the needled ridges and less of their day around the nest. Sometime in mid-August, the Johnny Gunter barn swallows left. Perhaps they had swooped south when the cool ghost of this blistering summer drifted in. The cornflower skies above the house became lonely. I sighed. I smiled. Sadly. Joyfully.



ENHS sponsors Milepost 186 as part of Oregon Shores Conservation Coalition’s Coastwatch program. We sponsor a wonderful mile, stretching from Stonefield Beach to Bray Point. Stonefield is a delightful small beach, with sand and tidepools. It encloses the cobbled outlet of Ten Mile Creek. At the north end of the mile, Bray Point, without beach access, is superb for watching seabirds, including marbled murrelets. Please visit our beach this fall and winter. Bring a bag, because though usually very clean, the beach can always use a helping hand getting rid of waste, especially plastic.

McKenzie River Trust <https://mckenzieiver.org/events/#event-listings> (541) 345-2799

Second Saturday of the month, September through December. Living River Exploration Days at Green Island.

Take a walk near where the Willamette and the McKenzie Rivers meet. Observe fifteen years of tree-planting work on Green Island, a habitat for beaver, river otter, and over 150 species of birds.

Because this property is a privately owned space in active conservation, there are a few things to know before you visit:

- No pets, please. This area is in conservation and all domestic animals are prohibited.
- There will be a port-a-potty available but no other facilities.
- Bring water with you; there is no potable water on-site.
- Green Island is adjacent to public lands that are used for hunting during bird and deer seasons; you may hear gunshots during these seasons. Hunting is strictly prohibited at Green Island.
- Bikes are great. The trails are a mix of loose gravel and dirt farm roads, so big tires are better.
- Help us to be good neighbors! Please drive under 5 MPH past the houses on Green Island Rd.
- Gates will be closed at 3 p.m.

Please practice COVID-19 safety during your visit. Bring a mask or other face covering and maintain a safe physical distance from other visitors outside your group. This event is free and does not require registration. We will have an optional registration station near the entrance. Your registration helps McKenzie River Trust access funding so that we can continue to offer this space for recreation.

Lane County Audubon Society lanecountyaudubon.org or 541-485-BIRD

Tuesday, 28 September, 7 p.m. At the start of this year, a team of penguin scientists, including our own Noah Strycker, surveyed colonies in the Antarctic. Noah will present our September program. This video produced by Greenpeace, “[Disappearing Penguins](https://www.youtube.com/watch?v=ZTx3B6-CyxU),” tells the story. <https://www.youtube.com/watch?v=ZTx3B6-CyxU>

The meeting may be both in-person and Zoom. Location TBD. CDC and local guidelines will be followed. Check the LCAS website and LCAS Facebook page for up-to-date information.

Klamath Basin Audubon Society (KBAS)

Tuesday, 14 September, 7 p.m. FREE KBAS ZOOM: “Help for Grassland Birds: Introducing Audubon’s Conservation Ranching Program” presented by Matt Allshouse, Conservation Ranching Program Manager with Audubon California. **Pre-registration is required by Monday, 13 Sept. Info:** [Klamath Basin Audubon Society \(klamathaudubon.org\)](http://klamathaudubon.org) or 877 541 2473.

Mt. Pisgah Arboretum

For MPA activities go to <https://mountpisgaharboretum.com/festivals-events/> or call 541-747-3817

There are no events scheduled this month.

University of Oregon’s Museum of Natural and Cultural History <https://mnch.uoregon.edu/museum-home>

The museum is open to the public! Our new hours and timed ticketing system ensure a safe and enjoyable visit for every guest. [Learn more](#). Reservations are recommended. [Reserve your tickets online](#) or contact us at 541-346-3024 or mnchticketing@uoregon.edu.

Thursday, 23 September, 6 p.m. A PANEL DISCUSSION ON THE LAWN: Humans, Other Animals, and the Ethics of Research. This fall, Eugene Opera will present *Lucy*, a work based on the real-life story of a chimpanzee raised as a ‘daughter’ by psychologist Maurice Temerlin. Join the production’s creative team along with researchers from the University of Oregon for an exploration of animal ethics and the human stories behind academic research. The event is free and open to the public. **Space is limited and reservations are recommended.** To reserve your spot, contact us at 541-346-3024 or mnchticketing@uoregon.edu.

Native Plant Society of Oregon, Emerald Chapter <https://emerald.npsoregon.org/>

Monday, 20 September, 7 p.m. Native Plants for Pollinators: Research from the OSU Garden Ecology Lab. Native plant gardening has been ranked as one of the top three landscape and garden trends over the past few years, in part because of the benefits these plants offer to pollinators. Native plants are not widely planted by home gardeners, however, and only limited selections can be found at many retail nurseries. This talk, given by Gail Langelotto, will share research conducted by the OSU Garden Ecology Lab for the past four years and will address questions such as: Which Willamette Valley native plants are most attractive to pollinators? Why aren’t native plants more broadly available for purchase? What native plants are most attractive (according to Oregon gardeners), and which native plant traits gave gardeners concern? Are native cultivars a good approach to some of the problems associated with the production and sale of native plants? Do pollinators visit native cultivars as much as they do native plants? We will end with our recommendations for native plants that western Oregon gardeners should plant to support Oregon's pollinators.

Nearby Nature <https://www.nearbynature.org/> or 541-687-9699

Tuesday, 14 September, 10 a.m. to 12:30 p.m. Green Start Play Day: Slime Time. This month get slimy while learning about slugs, snails, and other invertebrates! Check in with Miss Grace at the start of your family’s 45-minute reserved time slot to receive instructions and then set off in our safe and exciting outdoor classroom to discover toddler and pre-school activities, stories, and games. Rain or shine! Kids 5 and under only, with an adult. Please be sure to [pre-register](#) to reserve your time slot; there will only be three families in the Learnscape at the same time (with social distancing guidelines in place). Members free,

non-members \$7/family.

Thursday, 16 September, 10 a.m. to 1 p.m. Alton Baker Park Cleanup and Restoration Day. Join Nearby Nature for this year's United Way Day of Caring. Help enhance the area around the Magic Forest and Wildflower Hollow in Alton Baker Park. This beautiful area sits adjacent to the Willamette River path and showcases native trees and wildflowers. Volunteers will pick up litter, improve trails, and remove invasive plants. Please wear clothes appropriate for outdoor work and bring a water bottle. This event is appropriate for adults and kids 13 and older with an adult. Please pre-register through United Way [here](#). Meet at [Nearby Nature](#), next to the yurt.

Wednesdays, 29 September through 20 October, 12:30 to 4:30 p.m. Wonder Keepers: Session 1 (ages 4–5)

In this fall program, sensory adventures, cooperative activities, nature storytelling, garden exploration, Earth art, and free time in our outdoor play spaces will help young children develop a personal connection to the wonders of the natural world as well as social and independent exploring skills. Flexible drop off is between 12:30 to 1 p.m. and flexible pick anytime between 4 and 4:30 p.m. [Pre-register](#) to reserve your child's space in this program!

Mondays and/or Fridays*, 27 September through 22 October, 2:30 to 5:30 p.m. Natural Neighbors—After School:

Session 1 (ages 6–10). Participants will get to know their nearby animal and plant neighbors as they hike in the park and explore our Learnscape Outdoor Classroom. They will use nets and magnifiers to check out critters up close, create seasonal nature notebooks, enjoy art and storytelling, and deepen their personal connections to the amazing natural community we all call home. Flexible drop off can happen between 2 and 2:30 p.m. and pick up between 5 and 5:30 p.m. [Pre-register](#) to reserve your child's space in this program! *This program has sessions on both Monday and Friday. Children are welcome to attend just one day a week or both days. Activities will be different on these days.

Friends of Buford Park and Mt. Pisgah <https://www.bufordpark.org/>. or 541-344-8450

Because people and nature need each other, the Park is OPEN during the coronavirus/COVID-19 pandemic. Please refer to [Lane County](#) for instructions about the park and updates.

WREN (Willamette Resources and Educational Network)

Tuesday, 14 September, 9 to 11 a.m. Wetland Wander. Rick Ahrens will lead this walk at Delta Ponds. Meet in the parking lot behind Valley River Center, near the footbridge over the Willamette River. Please bring water. Wetland Wanders are casual walks through the West Eugene Wetlands. Walks are free and open to the public.

Wednesdays, 22 and 29 September and 6 October, 4 to 6 p.m. After-School Fall Programs. These programs are for third- and fourth-grade students. Minimum of 5, maximum of 8 per session, \$10 per student. To register, contact Ellen Thompson, WREN's Environmental Education Specialist, at ellen@wewetlands.org. Sign up for one program day or the whole series. Our fall programs will explore the impacts of fires in natural and urban environments. The programs will be held outdoors and incorporate hands-on learning experiences thematically revolved around fire in our local ecosystem. We feel students learn best about ecology when it is close to home because they can observe local plants, animals, and fire impacts first-hand. Given how much fires are affecting Oregon and our local environment, WREN is offering fire programming to increase understanding and fire awareness in youth. Location: 751 S. Danebo Avenue.

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*. Our web address:

<http://eugenenaturalhistorysociety.org/>

MEMBERSHIP FORM

Name _____
Address _____
City _____ State & Zip _____ Phone _____
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: Family	\$25.00
Individual	15.00
Life Membership	300.00
Contribution	_____

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

Make checks payable to:
Eugene Natural History Society
P.O. Box 5494, Eugene, OR 97405

The Elakha Alliance is pleased to present this scientific Feasibility Study Draft regarding sea otter reintroduction in Oregon. A team of six leading scientists led by Dr. Tim Tinker evaluated key dimensions of a proposed sea otter reintroduction, including source population dynamics, habitat suitability, ecological considerations, social and economic impacts, legal requirements, logistics, and more.
<https://www.elakhaalliance.org/feasibility-study/>



Sea Otter (*Enhydra lutris*) preening itself in Morro Bay

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2021-2022 Speakers and Topics

17 Sept.	Julia Clark	Dinosaur Colors and Vocalizations (this will be a Zoom meeting)
15 Oct.	Laura Prugh	Wildlife Ecology
19 Nov.	TBA	
10 Dec.	Paul Bannick	Snowy Owls (cosponsored with Lane County Audubon Society)
21 Jan.	TBA	
18 Feb.	Michael Nelson	Fire Ecology and Report Following the 2020 Fires
18 Mar.	Pat O'Grady	Archaeology
15 Apr.	Lauren Ponisio	Bees and Wildfire
20 May	Lauren Hallett	Siskiyou Plant Communities