

Nature Trails

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Upper Reese Valley, in northeastern Nevada, where flows the Reese River, home to the southernmost populations of Lahontan cutthroat trout, which Dunham studied for his Ph.D. and continues to study now.

Historical and Projected Patterns of Change in Pacific Northwest Streams: Implications for Persistence of Threatened Bull Trout

**Dr. Jason Dunham, Supervisory Research Aquatic
Ecologist, U.S. Geological Service, Corvallis, Oregon**

**Friday, 17 May 2013, 7:30pm, Room 100
Willamette Hall, UO Campus**

Jason Dunham is a Lane County guy. He knew early on that he wanted to live and work in Oregon, and he knew he wanted to work on fish. Dunham grew up in the Culp Creek area east of Cottage Grove, and became a fly fisherman while still a kid. He tried playing football but it just wasn't as much fun as fishing so he gave it up. He would drive through the backcountry out of the Calapooia River drainage to the fly-only section of the North Umpqua River and swing flies for steelhead. With that sort of exposure as a youngster, no wonder he had to get back to Oregon as an adult, and that fish are so important to him.

After high school in Cottage Grove Dunham went to Lewis and Clark College for two years. He said it was an excellent school but he couldn't afford the tuition, so he finished his B.S. in zoology, at another excellent school: Oregon State University.

After seventeen years of schooling he decided to take a break, so he lived in the Bahamas for a year. Not only did this sojourn broaden his worldview it gave him ample opportunity to catch bonefish. He said he caught bunches of them using a basic old 6-weight fiberglass rod and a Pflueger reel – which shows it's not the name on the gear that matters, it's the skill of the user (or being in the right place at the right time).

Dunham went to Arizona State University for his Master's degree. He had two plans for his research. Plan A: birds. Plan B: fish. He tried plan A for a time but just couldn't stay away from fish so he ultimately went with plan B. A pattern seems to be emerging.

He got his M.S. in zoology at ASU and moved to the University of Nevada at Reno for his PhD, where he worked on population dynamics of Lahontan cutthroat trout. His study area was the Jarbidge Wilderness in northeast Nevada. To get there one drives east from Elko 100 miles on a gravel road. This wilderness is one of the most remote places in the continental U.S., with eight peaks over 10,000 feet and many creeks, where the fish are to be found, as well as a few small lakes. Dunham would go there for two weeks at a time. I am suspicious, frankly, because as an addicted fisherman this sounds like a perfect excuse for four years of extended fishing trips into what must be one of the best remaining fishing areas in the world. Jealousy is perhaps more to the point than suspicion.

Next up was a post-doctoral fellowship, for which he obtained his own funding. Although the University of

Nevada administered it, Dunham had the freedom to decide where he wanted to carry out the research and he chose Corvallis, Oregon, where he could interact with individuals in OSU's Department of Fisheries and Wildlife.

When his post-doctoral work was finished, Dunham took a position with the U.S. Forest Service in Idaho, again working in areas most of us can only dream about: the headwaters of the Middle Fork of the Salmon River and the Boise River. He was there for five years before taking his present job in 2005 with the U.S. Geological Service in Corvallis. His position title is Supervisory Research Aquatic Ecologist. He also has a courtesy faculty appointment in OSU's Department of Fisheries and Wildlife, where he advises graduate students and teaches upper-level courses.



Dunham in Alaska holding a female sockeye salmon

Dunham has his fingers in several research pies. He has over 65 publications already, so he's been busy. Looking over several of the titles and abstracts it strikes me that he's interested in anything that affects the long-term health of fresh-water fisheries. You name it, he's thought about it and probably worked on it. How do forest fires affect fish populations? How about dams? How about removal of dams? Invasion of exotic species? Encroaching civilization? Landscape alterations? Climate change? Interspecific hybridization? Here are titles of three studies he's currently involved in that deal with bull trout, the topic of his talk to us: Understanding Threats of Non-native Brook Trout on Threatened Bull

Trout and Pacific Salmon in the Elwha River Prior to Dam Removal; Decision Support for Reintroduction of Bull Trout into the Clackamas River, Oregon; Evaluating Threats of Invasion, Isolation, and Climate Change on Bull Trout in the State of Oregon. Dunham's work helps other managers make effective decisions. For example, in a recent paper in *Conservation Biology* on which he is the major author the researchers examined the question of whether removing barriers to fish migration such as the impassable dams on the Elwha River in Washington is a good thing or a bad thing, given that in other parts of the country barriers are being *constructed* to prevent invasions of non-native species. Their definition of the issues will help managers who are making decisions about the competing threats of invasion and isolation.

Bull trout, the species Dunham will concentrate on in his talk to us, are char, not trout. They are beautiful and mysterious, and they can get frightenly large. I've never caught a big one but I've heard stories, one of which I'll tell here. Kris and I and some friends, on a backpacking trip in central Idaho, crossed paths with some cowboys, one of whom saw we had fishing gear and told us a story. He had caught a decent trout and had it fairly close to shore when suddenly he became a bait fisherman – a huge bull trout had swallowed his fish. We don't remember whether he said he landed it, but I do remember his estimate of its size: 20 pounds. Secretly I scoffed, but just now I read that the state record in Washington is over 22 pounds. I hope that record fish was released alive.

Bull trout can go to sea, or not, like steelhead. Their demands are if anything even more stringent than trout

and steelhead. They spawn higher up in the headwaters of their home streams. They need really cold, clean water. They are our canaries. If we can keep their numbers from further decline, reintroduce them where they have been extirpated and keep them there, then we will be succeeding at stemming our self-induced tide of environmental destruction. Hats off to Jason Dunham for devoting his professional life to preserving the habitat crucial to these wonderful fish and other environmentally sensitive aquatic species. Do not miss his presentation, "Historical and Projected Patterns of Change in Pacific Northwest Streams: Implications for Persistence of Threatened Bull Trout," on 17 May at 7:30 pm in room 100, Willamette Hall on the UO campus. John Carter

Reminder: the May meeting is the annual business meeting and members will be asked to vote on whether to accept the slate of officers and at-large Board members.

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.



We're all familiar with the common honeybee and the important job they do pollinating many of our commercially important crops. They are not alone. North America is home to about 4,000 species of native bees. They are nature's most important and efficient pollinators. For example, about 250 female, blue orchard bees (*Osmia lignaria*, also known as the orchard mason bee) can do the work of 30,000 to 40,000 honeybees on a one-acre apple orchard.

The bee pictured at left is hard at work at the Painted Hills near Mitchell in Central Oregon. Spend a long weekend here or make this a side trip on the way to the main unit of the John Day Fossil Beds 31 miles farther east.

ENHS will have its booth at the Wildflower Festival at Mt. Pisgah Arboretum on 19 May. We need booth sitters. Sign up for a two-hour slot. You don't have to be a natural history buff because there will be one around to help. It's fun, you meet new folks, you get to watch kids ooh and aah over our displays, and you might entice someone to join our august organization. There will be a sign-up sheet at the May meeting.

Cheers! by Reida Kimmel

I have heard people criticize Natural History as being a purely observational science. The natural historian observes nature and tries to discover the facts, what is actually going on. That approach differs from "real

science" wherein the scientist makes a hypothesis and then designs experiments that can be duplicated by others, to prove or disprove her theory. Archaeologists, like natural historians, have difficulty designing experiments to prove hypotheses. The archaeologist

carefully uncovers the material evidence of past cultures, but if those societies were preliterate, the archaeologist must guess or deduce the meaning of the objects he uncovers. Often contemporary “primitive” societies or histories of past civilizations provide clues. But much is guesswork. Proof is difficult or impossible. Many times, if the guess seems plausible and logical, it is accepted, becoming unquestioned “fact”.

Twenty years ago Chuck and I and our friend Judith were visiting a very famous archaeological site, Scara Brae, on the island of Mainland, Orkney, Scotland. Here, an entire village of beautifully preserved homes was buried for millennia until a horrendous storm uncovered it in 1850. This village is more than 5,000 years old, built of stone, carefully laid. The houses, though tiny by our standards, contain stone bed boxes, dressers [or were they home altars?], central hearths, drains to move away excessive water, or perhaps household waste, and almost always, built into the floor near the hearth, one or more stone boxes which were sealed with clay and held water. Our guide told us the boxes were to hold dead limpets, which needed to be rotted before fish would accept them as bait. Visit Scara Brae tomorrow and you will hear the same story. “Absurd!” we giggled, trying not to be too rude, but really, in such a tiny house, who would dedicate all that space to storing rotting bait? And did we even know that people fished with hook and line instead of nets or traps? “Well, no”; we were told “but that’s what fishermen do today on Orkney, so it is logical that...”

Last year we returned to Orkney with our family and had to show them all the sights. They already knew about the boxes, and laughed with us at Scara Brae’s newly renovated signs explaining how to rot limpets in your kitchen. Then we drove to the most southerly part of this lovely archipelago and visited the Isbister Chambered Tomb, also called the Tomb of the Eagles. This complex structure is also from the Neolithic era, 5,000 years old, but the many sea eagle bones in the tomb were deposited 600 to 1000 years after the tomb was built, showing us that this burial site was in use as some sort of sacred spot for centuries. The tomb shares many characteristics with Neolithic burial sites all over the British Isles, but it is remarkably well preserved and rich in artifacts, stone axe heads, jet beads, a carved mace head. The placement of disarticulated human bones rather than intact bodies inside the tomb was characteristic of burials in the Neolithic. Also inside were joints of lamb, while outside the tomb, excavators found butchered remains of young cattle. They also found deliberately smashed pottery all around the site and burned smashed pottery inside the tomb. Neolithic Europeans worked hard, died young, and cared profoundly that their dead be treated and

honored in special ways. This is what the monuments and bones tell us.

The tomb is sited in a high place along the sea cliffs, and before you reach it, you pass a marsh. Here was another remarkable site, and here, we think, we found the answer to the mystery of the boxes. This site is called the Liddle Burnt Mound and it was discovered and excavated by the same farmer turned archaeologist, Ronald Simpson, who discovered the Tomb of the Eagles. Burnt mounds are very common things in British, especially Scottish, archaeology. They are simply impressively large piles of burned rocks. Whatever did people burn rocks for? For cooking! At the Liddle Burnt Mound there is a hearth on the site, though often the mounds were located behind buildings. Fire-heated rocks were placed in water, and heated the water which steamed or boiled food. Then the cracked degraded old rocks were thrown out on the pile. (Not so long ago, ordinary Europeans cooked all their food in pots, steaming meat, vegetables and even dessert, in the same container, and by careful wrapping and layering, at the same time.) At Liddle, next to the hearth that heated the rocks was a very large stone box, proven to be deep and large enough to cook a whole goat in less than a day if the water were kept almost boiling by the repeated addition of hot rocks. So that is what the stone boxes in the floors by the hearths at Scara Brae and other ancient house sites must have been for: cooking food! The Liddle Burnt mound is much younger than the tomb of the Eagles, but so close to it that we could conjecture that if people were still visiting the sacred site for some purpose as late as 1000 B.C., they might well want to prepare feasts. There at Liddle was a very large version of what they were accustomed to using at home. Mystery solved. But now our guide proposed a new conjecture. There is evidence of barley lipids in grooved-ware pots found on Orkney. The slimy drains at Scara Brae could have been carrying away brewing wastes. Pigs at an English site, Durrington Wells, could, from the evidence of their rotten teeth, have been consuming the sweet residues of the brewing process. A pot that could have held up to thirty gallons of liquid was found by the hearth at House Seven at Scara Brae, a house that also had a box in the floor by the hearth. Could our Neolithic ancestors also have been malting barley, adding flowers and heather, and making tasty beer in their stone boxes? Would this intoxicating beverage have been part of sacred rites, or would a weaker, very digestible and easily stored beverage have been part of the everyday diet? Modern tools for analyzing ancient remains are helping archaeologists look outside the box, or rather deeper into the box, to see the world of our distant ancestors just a little more clearly.

ANNUAL ENHS POTLUCK PICNIC Sunday 9 June, 2:00 pm, rain or shine.

Once again the Kimmels are hosting the ENHS potluck picnic at the farm on Fox Hollow Road. Just bring a favorite dish or beverage to share and come prepared to watch some birds, walk around the wild area and the pond, pat the horses, socialize with the critters, or best of all, to sit outside or by the woodstove chatting with friends, old and new.

Here are directions to the farm, 30306 Fox Hollow Road.

If you are driving south on Hilyard St., ¼ mi after passing the 30th St. light, [see the Dari Mart] go left on W. Amazon Dr. [This turn is the next light after E. Amazon Dr. Both intersect Fox Hollow actually.]

Go ¾ mi. [see Calvary Chapel which looks like a warehouse]. Turn right [approximately west] on Fox Hollow Road.

Ignoring the street numbers, drive through suburbia into the countryside. In 4.7 miles you will see S. Willamette St. coming in on the right. *Drive on. In another 1.9 miles there will be a fire station on your right, and Macbeth Road will join Fox Hollow Road from the right. Bear left, [southwest] staying on Fox Hollow. The road will curve downhill in a southerly and southwesterly direction. In 1.1 more miles you will see our mailbox on the right [Kimmel, 30306]. Turn left into our driveway and park by the barn, the garage, the front walk or on the grass beside the driveway.

You have now gone 8.7 miles from the intersection of 30th and Hilyard. The entire road is paved.

*If you are coming from Willamette St, just follow S. Willamette out into the country past Spencer's Butte Park to the stop sign and junction with Fox Hollow Road and follow the directions from *

If you are coming from West Eugene, go on Bailey Hill Road to Lorane Highway and turn left on Lorane Highway at Twin Oaks Church, just after Twin Oaks School. Go east on Lorane Highway to Macbeth Road, just past the Grange. Turn Right. Go 3.68 miles to the end of MacBeth, and turn right onto Fox Hollow. Go southwest down hill for 1.1 miles and turn left at our driveway.

President's Corner

Beyond Boston

by Tom A. Titus

Responsibility comes to us in many forms. Often our obligations are planned and long term, such as child rearing. Other times duty is foisted upon us in a flash. In April I chose to run the Boston Marathon, and responsibility came to me in two echoing booms as I sprawled on early spring grass exhausted, depleted, and happy just two blocks from the finish when flying shrapnel killed three, maimed hundreds, and wounded the spirits of thousands. Anger, outrage, and sorrow always follow the frothy chaos of mass trauma, and then everyone trots out their favorite agenda, political or moral or religious or some combination of any of them.

Let's be clear—I have an agenda, too, although my felt responsibility to the Boston bombings could be called any manner of things, from a worldview to a belief system to perhaps even a hypothesis. Simply stated, I believe that for us to be whole people we need to be physically, emotionally, and spiritually connected to our place in as many ways and as deeply as possible—through the people and the landscape and all the other living things with whom we share our space.

This idea is neither new nor radical. The simplicity espoused by Henry David Thoreau, Aldo Leopold's challenge of environmental stewardship as moral responsibility, and the writings of a multitude of other environmental philosophers are reactions to human self-centered profligacy and subjugation of Nature. Their ideas resonate with us because today, and on all our other days, we sit, stand, and walk at the endpoint of a few million years of human evolution that has

cemented into our chromosomes a desire for belonging, to be with other people functioning together within a place that meets our needs. The current estrangement between people and the natural world likely began in earnest only in the last 10,000 years or so of civilized history when many of us began to part ways with the tribal hunter-gatherer lifestyle that had sustained humanity and its predecessors for eons. In our new world constructed of concrete and crammed with people living as isolated individuals in competition with one another, we now have a recipe for despair, a dysfunctional state that can fuel the occasional sociopathic outburst in a few folks who are living at the frayed edges of the overstretched socioenvironmental fabric.

But not everything has been torn asunder, and ripped cloth can be mended. This is why I love everything about the word *connected*: the double-click feel of it in my mouth, the sound of something locking in, buckling up, held firmly in place. The sound of safety. *Disconnected*, the antonym, is the word that has been haunting me since Boston, seemingly stuck in the folds of my gray matter like an irritating grass seed in a sock. Severed, detached, disengaged, adrift, lost. Disconnected is one of the media adjectives used to describe Tamerlan Tsarnaev.

In a recent blog post, local author, high school teacher, and former troubled teen Peter Hoffmeister addressed the catastrophe of mass shootings ("On School Shooters—The Huffington Post Doesn't Want You To Read This," March 4), reminding us that shooters are often addicted to violent video games rather than fly-fishing or rock climbing and that developing a connection with nature might be a

palliative for dysfunctional, misfit kids. I couldn't agree more and would extend his thesis to say that a profound reconnection with our place might be a palliative for a dysfunctional, misfit society. Would people who know the evening rise of sulfur duns over darkening water or the candy smell of cottonwood leaves in spring or the deep red of a Spotted Towhee's eye or the rising spiral call of a Swainson's Thrush or the voluptuous pink nod of Calypso orchids or the lacy white inscription on lavender wild iris petals or the feel of bean seeds pushed into warm May soil or the tribal connectedness of other people who also know these things also carry within them the ability to fill up a pressure cooker with black powder and ball bearings and nails and blow it up in crowd of innocents? Not likely.

Occasionally I think of our Eugene Natural History Society as a quaint collection of nature geeks who have nothing better to do on Friday evening than come to a

presentation given by yet another nature geek speaking on a topic of interest only to nature geeks. I was outgrowing this small worldview long before my April trip to Beantown, but my proximity to the horror at the Boston Marathon accelerated that process of maturation. Our mission is outwardly simple—to provide opportunities for natural history education—but the implications quickly deepen and widen when we ask *why* we would want to educate people about the natural world. If education leads to knowledge and knowledge becomes connectivity, and connectivity creates value for all parts of the living world, if we choose to follow the path laid out by luminaries such as Thoreau and Leopold, then our local natural history society becomes our responsibility, part of our moral obligation to the larger world. I trust that collectively we can carry this load.

May your summer be filled with Peace.

Events of Interest in the Community

Lane County Audubon Society

Sunday, 12 May, 8 am-noon. SPECIAL BIRD WALK at the Oregon Country Fair site with biologist Glenn Johnson. Meet at the OCF site at 24450 Suttle Road (turn onto Aero Road and then to the parking area on Chickadee Lane; look for the signs).

Those interested in carpooling can gather for departure at 7:30 a.m. at South Eugene High School parking lot (corner of 19th and Patterson) and plan to return by noon. Questions: Call Maeve Sowles at 541-343-8664 or president@laneaudubon.org

Saturday, 18 May, 8:30-11:30 am. Audubon Spring Birdwalk. Led by Vjera Thompson, Audubon Christmas bird count leader for the past 4 years. Co-sponsored by MPA as part of May Wildflower Month.

Tuesday, 28 May, 7:30 pm. Oregon's Zumwalt Prairie: Last of the Wild Grasslands. Wildlife biologist and award-winning author Marcy Houle will talk on her studies of the Zumwalt Prairie. Eugene Garden Club, 1655 High Street, 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.

Sunday, 19 May, 10 am - 5 pm. Wildflower & Music Festival. Parking is free on festival day. Suggested donation \$5 per person, children under 12 free. Please leave your dogs at home. Experience a day of wildflowers, music, food, crafts, and microscopes. Three to four hundred species of wildflowers will be on display, from Anemones to *Vancouveria*. Collected and organized for attendees to get a close look, top botanists of the region will be on hand to answer questions. For an even closer look, guests can use on-site microscopes. Nectar glands at the base of the petals really glisten at 100X magnification. There will be great live music to amplify this festive frolic in the meadow. Come shop for a wide variety of plants, baked goods, and crafts at the wide array of vendor booths, with proceeds supporting the Arboretum's work in habitat restoration and environmental education. A tent full of kids' activities will keep even the tiny ones entertained.

Friends of Buford Park and Mt. Pisgah

Saturday, 11 May 9 am-noon. The Wildflowers of Mt. Pisgah's Prairies and Oak Savannas. Celebrate National Wildflower Week by joining Gail Baker, retired Lane Community College botany professor, and Sabine Dutoit, life-long amateur botanist, for a wildflower tour of Meadowlark Prairie and Buckbrush Creek on Mt. Pisgah's east slope. You will see a variety of spring wildflowers and learn how FBP's efforts are bringing back the splendor of the rare prairie and oak savanna habitats.

Thursday, 23 May 23rd, 5:30-8 pm. Meadowlark Prairie Enhancement - One Year Later. Join Jason Blazar, FBP Stewardship Coordinator and Executive Director of Camas Educational Network, for a tour of the Meadowlark Prairie Enhancement Project, a collaborative project of the Friends and Lane County Parks. This project started in the summer of 2012. Learn how extensive restoration efforts, such as selective logging, invasive species removal, prescribed burning and reseeded, are working to bring the prairie back to life.

Saturday, 8 June, 9 am-noon. A Natural and Unnatural History of Invasive Species. Join Barbara "Bitty" Roy, Associate Professor of Biology at the University of Oregon, to explore what makes species "invasive", which management techniques are effective in their control, and how they impact our lives both ecologically and economically.

Saturday, 29 June, 9 am-noon. Birds of Mt. Pisgah's Grasslands. Bruce Newhouse, Field Ecologist, Environmental Planner and FBP Board Member, will lead an early morning bird walk through Pisgah's grasslands.

Registration opens one month before each of the above four tours; just go to www.bufordpark.org and click on Tours.

Nearby Nature

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

Sunday, 12 May, 1-4 pm. Lessons in the Learnscape: Mother's Day Drawing Workshop and Nature Walk. David Wagner hosts this wildflower drawing workshop and nature walk. Come to the Nearby Nature Yurt in Alton Baker Park. Pre-registration is encouraged and space is limited. The workshop cost is on a sliding scale. To register or for more information, call 541-687-9699, email info@nearbynature.org, or visit <http://www.nearbynature.org/events/may-12-lessons-in-the-learnscape-mothers-day-drawing-workshop-and-nature-walk>.

Native Plant Society of Oregon, Emerald Chapter

Monday, 20 May, 7:30-9 pm. Drawing and Painting Wildflowers Throughout the West. An illustrated talk by Dr. Linda Ann Vorobik. EWEB Training Room, 500 E 4th Ave., Eugene. Co-sponsored by Mt. Pisgah Arboretum, as part of May Wildflower Month. For more information call 541-349-9999.

WREN

Saturday, 11 May, 10 am – 2 pm. WREN'S 7th Annual Walkin' & Rollin' through the West Eugene Wetlands. Maps and passports available Sat., 11 May, 10 am-2 pm, at Paul's Bicycle Way of Life (3870 W. 11th Ave.), at the WREN booth across from the yurt on the Fern Ridge Bicycle Path, or at the BLM booth at the railroad bridge along the bike path south of Terry Street. Free.

Tuesday, 14 May, 9-10:30 am. WREN's Wetland Wander at Wild Iris Ridge. Park on Bailey View Drive in Eugene, walk to the end of the street and meet our group at the entrance. Participants should bring a picnic lunch, bring water and wear sturdy shoes. WREN will provide binoculars.

Saturday, 18 May, 10 am-2 pm. WREN's Family Exploration Day at Golden Gardens Ponds. This family program is FREE to the public and provides unstructured observation, education and inspiration in our surrounding natural spaces. WREN staff and volunteers will be on hand to checkout nature exploration equipment and provide guidance for independent exploration of the wonders in the wetlands. Participants are asked to meet at the pull-off located north of Barger Drive, at the intersection of Golden Gardens Street and Jessen Drive. Participants should bring water and wear sturdy shoes. WREN will provide binoculars.

We welcome new members! To join ENHS, fill out the form below. You will receive *Nature Trails* through November 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/>

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:	Contributing	20.00
	Family	15.00
	Individual	10.00
	Life Membership	300.00
	Contribution	_____

Make checks payable to: The Eugene Natural History Society
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: _____

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

ENHS Schedule of Speakers and Topics for 2013

- 17 May 2013** – Jason Dunham – Historical and Projected Patterns of Change in Pacific Northwest Streams: Implications for Persistence of Threatened Bull Trout
- 20 Sept. 2013** – Scott Pike – The Ness of Brodgar, Orkney's Ancient Temple Complex: Using Geochemistry to Unravel its Mysteries
- 18 Oct. 2013** – Robin Kimmerer – Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants
- 15 Nov. 2013** – Ray Rivera – Native Salmonid Fishes of the McKenzie River.
- 13 Dec. 2013** – Daniel Robey – Caspian Tern Predation in the lower Columbia River Basin

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