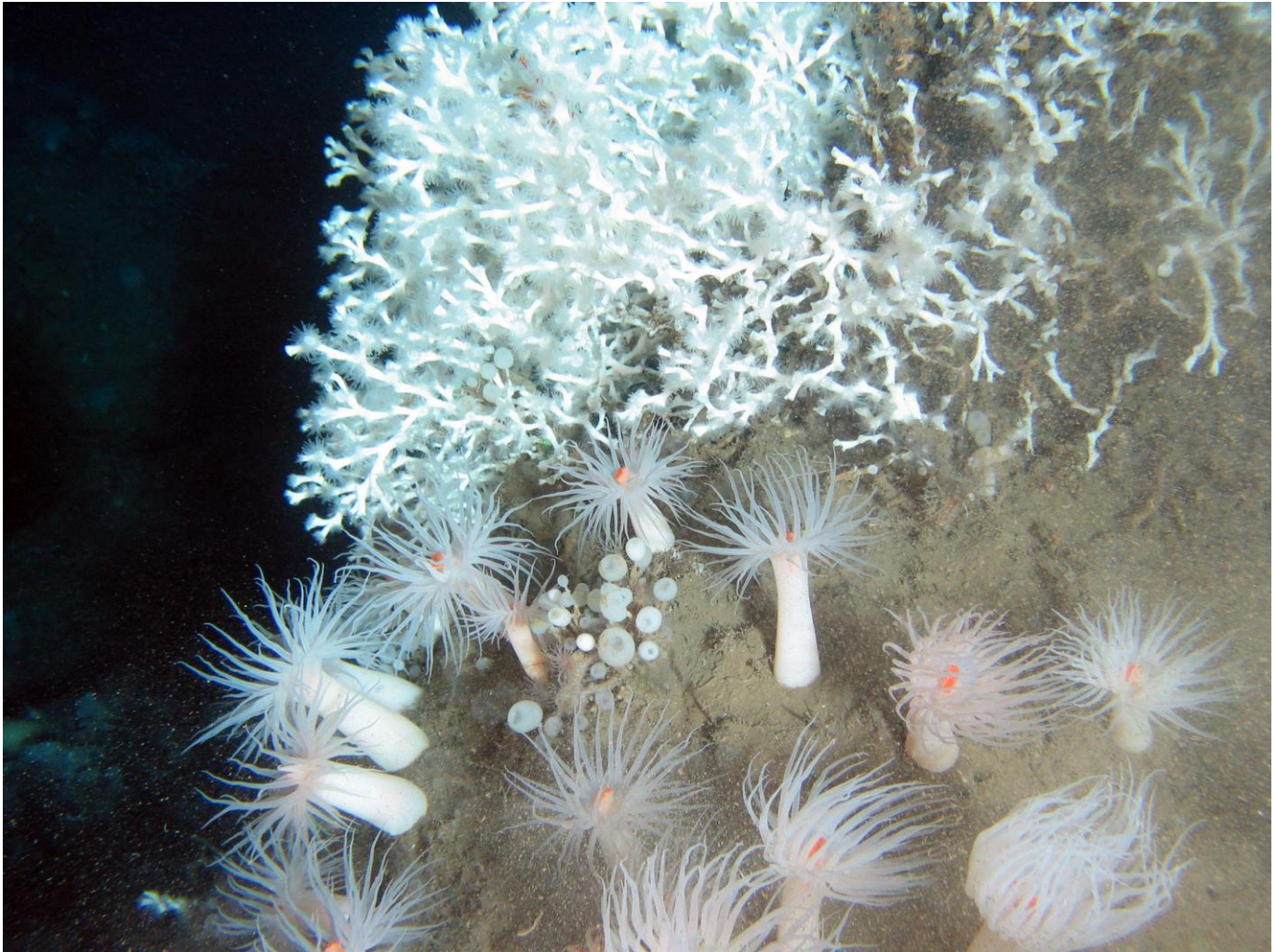


Nature Trails

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High Life in the Ocean Depths: the Biology of Deep-Sea Mountains

Dr. Craig M. Young

Professor of Biology, University of Oregon,
and Director, Oregon Institute of Marine
Biology

Friday, 19 October 2012, 7:30pm, Room 100 Willamette Hall, UO Campus

Our October speaker, Dr. Craig Young, has crammed a sobering number of achievements into his professional life, a considerable portion of which he has spent either on or under an ocean. He has been the Director of the Oregon Institute of Marine Biology in Charleston since 2002.

Now a bit about how he got to the OIMB. Young was born in Utah and lived close to the mountains, where as a boy he chased lizards and collected fossils. His family moved to Northern California when he was nine, and his passion for animals broadened to include the creatures he found in tide pools around Santa Cruz. He found a book in the library of his Junior High School entitled *Animals Without Backbones* and on weekends the animals in that book would appear before him in the tide pools. He was hooked. At the tender age of 10 he knew he wanted to be a scientist who studied these animals. He was snorkeling by age 14, and had his SCUBA certification at 16 – only because you have to be 16 to qualify.

Young's B.S. and M.S. degrees, both in zoology, are from Brigham Young University, in Utah, but he spent his summers working at marine labs in California and Washington. He finished his Ph.D. in 1982 at the University of Alberta, Canada, focusing his research on distribution patterns of ascidians (sea squirts) in the San Juan Islands of Puget Sound. From Alberta Young moved to Florida, where he was a faculty member at Florida State University for 3 years. He became Head of the Department of Larval Ecology at the Harbor Branch Oceanographic Institution – now a division of Florida Atlantic University – in 1985. After 17 years there he came to OIMB.

Quoting OIMB's website, "Craig Young's lab focuses on the reproduction and early life history stages (embryos and larvae) of marine invertebrates, particularly those that live in the deep sea. To obtain access to animals living up to two miles beneath the surface, he routinely uses manned submersibles and underwater robots deployed from large ocean-going vessels. Over the past 30-plus years Craig and his students have made hundreds of dives to the sea floor in 8 different submersibles and have worked at many marine laboratories in Europe, Asia, North America, Antarctica and Australia."

Young's is the first CV I've ever seen with a section on cruises. He has been chief scientist on nine

oceanographic vessels, for 43 cruises, and has done research on 32 additional cruises or submersibles. He said a cruise lasts anywhere from 4 or 5 days to a month, but probably averages about two weeks. Besides all this time (three years!) on and in the deep oceans he has also worked in intertidal and subtidal zones all over the world.

I asked him to describe his worst cruise, thinking it would have something to do with a huge storm. No, it had to do with faulty plumbing. Most everybody, including the crew, the scientists, the students, and his dad, whom he had taken along sort of to show off, got sick – not from rough seas but from exposure to raw sewage. Enough said.

The strangest sight he has beheld was at a hydrothermal vent called tube-worm pillar, in the eastern Pacific. At 2500 m deep, the pillar rises about 30 m off the ocean floor, and hot water up to 300° C streams from vents all along its sides. Bright red tube worms (*Riftia pachyptila*) adorn the pillar, in very close proximity to this hot water. He said it was a moving experience to hover in the submersible within a few feet of this scene.

His scariest moment also came when submerged. His submersible's battery, about 8 feet long and massive, blew up. Fortunately it was in a separate compartment, below the passenger section, but the result was instant, utter darkness – and a feeling bordering on panic. Also fortunate, the hydraulic system for getting back to the surface was still functional.

Young's productivity can be measured in several ways. Besides the dozens of seminars Young has given, he has presented several keynote or plenary addresses. He has taught over 25 courses at 8 different institutions. He has edited around 20 books and volumes. He has published upwards of 140 papers. He has advised around 40 M.S. and PhD students and postdoctoral fellows, many of whom now occupy prominent research/academic positions in institutions all over the world.

Young's research has been amply supported at the federal level. NSF has funded him continuously for the past 30 years, the total running upwards of \$4.1 million, not including expensive ship and submersible time. He has obtained at least 15 NOAA (National Oceanic and Atmospheric Administration) grants.



Young has also served his discipline well, organizing conferences, workshops and symposia; reviewing manuscripts, theses and grant proposals; and serving on journal editorial boards and national and international committees.

Young was recently elected a Fellow of the American Association for the Advancement of Science (the organization that publishes *Science* magazine, one of the most prestigious scientific journals in the world). Perhaps the neatest new feather in his cap, however, is that he is now Editor-in-Chief of *Marine Ecology*. This is the oldest continuously published marine biology journal in the world. Begun in 1872, in Naples, Italy, its editorial office is now in Charleston, Oregon – the first time in its history that it has been outside the Mediterranean region.

On Friday, 19 October, at 7:30 pm in Room 100, Willamette Hall, on the University of Oregon Campus, Dr. Young will give his talk “High Life in the Ocean Depths: The Biology of Deep-Sea Mountains.” We can expect to see photos and videos of strange and beautiful animals that exist in conditions difficult to imagine. This is an opportunity to hear a world leader in a fascinating discipline. You won’t want to miss it.

John Carter

Welcoming the Shade by **Reida Kimmel**

When we moved to our little piece of land in 1969 we were really broke, but we had our dream. The house was both unfinished and rundown, the land an eroded scar not recovered from the huge clear cut that had wiped out the ancient forest in our part of the valley twenty years before. Still, we thought, there was room to raise horses, keep a cow, and have a garden. The land looked rich and green after the San Diego chaparral. We never guessed that the three horses and the very unhappy cow and her calf would make short work of the lush pasture, reducing it to dust and stubble soon after the late summer’s dormant season began. The cow experiment was short-lived, but the horses remained. Two Arabian foals delighted us as they raced up and down our steep hillside. They grew up to be superb mounts, bold and sure-footed, but the land cried out for help. I started to read farming magazines and discovered that five acres is the right amount of land to support one horse. We had three, and they were all keepers. We made some changes, cross fenced and rotated our pastures and built a sturdy corral, surfaced first with rock and then with wood chips. The horses were banned from the pastures for the entirety of mud season, and we trundled up and down hills with endless cartloads of manure, shoveled twice daily from the barn and corral. We grew very strong. The land healed. A small flock of sheep became part of the equation.

They grazed the weeds, even tansy, that horses won’t touch. Rotated with horses, they greatly reduced the need to de-worm. The sheep would eat the new growth in a pasture last used by horses, and with the grasses they consumed parasitic larvae specific to horses. The horses performed the same service for the sheep.

It was a beautifully managed, picture-book mini-farm, and then in the last two years it all fell apart. One of our horses developed Cushing’s disease. She has to watch her weight and sugar consumption very carefully, and she cannot be allowed to graze very long when the grass is green. For various reasons, including cougar predation, our sheep flock died. Two wet springs in a row, fertile earth, very reduced grazing, and the grasses grew three and four feet tall. It was hard to walk in the pasture. It still is, even after three months of drought. It is time to make some radical changes.

It’s sad when you have achieved your dream only to find that it is the wrong dream. We are giving our land, or a large part of it, back to the trees. It’s hard work. Chuck planted the hill pasture with about one hundred trees last winter, and has been weeding them off and on all summer. He plans to plant more this winter. A seasonal creek runs through the pasture by the driveway. A new fence defines the border between the level, well-drained land to be kept as pasture, and the rest, a steep and boggy wetland. Without interference from livestock, the trees – mostly willow – that I have planted along the creek over the past years have grown amazingly this summer. I am finding numerous ash and red-twig dogwood volunteers. These are not glamorous species, but they are right for wet places. Both Chuck and I have to spend more time and energy than we would wish weeding our future mini-forests.

October days here are a bit chilly, and the sun is hidden by mid-afternoon. As I sit outdoors in the last sunny spot, chopping apples to make into juice and apple butter, I think about those early days and all the changes in our valley. To the south, tall firs shade the back yard where we used to raise corn, beans and tomatoes. Now the only food crops that old veggie garden supports are early producing rhubarb and asparagus, though roses and saxifrages love the soft light. The abandoned pasture across the road is a lush forest. Vultures nest there. Where once I could look down the valley and see my neighbors’ houses, I can only see trees. Our pond has changed. Formerly a stark oval of muddy brown water and weird hairy algae, it is hidden now by shrubs and trees, planted more than twenty years ago. The pond is shrinking, eutrophying, but the water is clear. The increased shade has reduced algae blooms. Fruit trees border the west side of the pond, mostly apple trees, source of the bounty that I

am presently putting away for the future. They too are feeling the effects of the shade that will eventually embrace most of our land, for the spindly oak and ash trees that were here before us are now noble giants in the westernmost part of our property. Those big trees hold moisture under their shade. The tiny swamp we inherited with the land has expanded to fill the southwest quadrant of the pond pasture. No domestic animal wants to graze in the tule grasses but many birds nest and forage there.

While we weren't noticing, the forest was returning. For the most part we welcomed the trees' beauty and the cool shade. But we did not make the connection between the encroaching forest and the fact that our home was not the place for agriculture. We could not recognize the forest in 1969 because it had been stripped away, or perhaps we did not want to see it. Two generations of pioneers had tried to farm up and down Fox Hollow Valley, and none had been able to

scrape out better than a subsistence living. The nature of the land is to be forested. Like Canute, we were trying to hold back the tide of trees. We were actually no different than the neighbor we mock because his dreary recreation is to mow each and every weekend and most summer evenings, trying to conquer the vegetation. But of course, the forests' greatest enemies are the timber companies. Calling themselves tree farmers, they spray to kill every plant that is not a Douglas fir, and succeed frighteningly well. We will try grow our little woodland gently, letting native species return, planting and nurturing shrubs and trees that belong. We, and our many like-minded neighbors, can provide refugia, not only for plant species, but also for the animals that belong in the forest. It's going to be lots of work, but we are proud to be beginner tree farmers.

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.



Steens Mountain

Called "the Gem of the Oregon High Desert" this 30-mile-long fault-block mountain rises over 9000' high and features 5 major text-book-quality gorges. October is a great time to see wildflowers and aspen in their spectacular fall colors.

While you are out there, visit Malheur National Wildlife Refuge at the base of Steens, one of the best in the west.

Pet peeve alert: It's not "The Steens" (it's just one mountain) and it's not "Steen's" Mountain (although it is named after Enoch Steen, an early explorer of the area). It's just plain S-T-E-E-N-S Mountain. Thank you.

President's Corner

Picking My Way by Tom A. Titus

Late September, eighty degrees, dry champagne air, and summer only now seems to have arrived. The lateness of it all has saved me. For me this year's dry season was an exercise in overscheduled brinksmanship, with warm weather crops barely

planted, dewberries barely picked, honey barely pulled from hives, a prodigious pear crop barely harvested, barely dried, barely canned. Likewise, there is now barely time for picking the remaining Armenian blackberries for my annual batch of blackberry wine. If there is a secret to my wine recipe, it is using late-

harvest berries, but by now I am pushing the concept of “late harvest” to the extreme. Most of the fruit would have dropped by now if this were the beginning of any normal fall. But this year everything is running late, and everything runs later still in the Coast Range, in more ways than you can imagine.

Although I love the flavor and history and poetry and process of picking and eating our native trailing blackberries, a five-gallon batch of blackberry wine requires 25 pounds of berries, and for this task the large, juicy largess of Armenian blackberries suits me just fine. So I load up the old Nissan pickup, roll through the dry brown gold autumn of Lorane Valley, and climb over the ridge and down to Upper Smith River. The gravel road that ascends a ridge above Upper Smith River has been graded smooth, and this can mean only one thing—more Douglas fir will soon be cut. But I have to accept that logging is the only reason there are any side roads at all in the Coast Range, accept that sun-loving Armenian blackberries have been able to colonize these mountains because of the logging wounds that have opened the forest.

Pulling off the road, the crunch of gravel under my tires is replaced by silence. From the back I grab a half-gallon yogurt container outfitted with a length of orange parachute cord that allows it to dangle from my neck, thus freeing both hands for berrying. From the green tangle of brambles the pungent smell of overripe blackberries rises through still afternoon heat. At first glance the berries seem mostly gone, and I wonder if I really am too late. But I prop my sunglasses on top of my hat and peer carefully into the mass of heavily thorned vines, allowing my unprotected eyes to adjust from bright midday sun to the leafy shaded depths. My nose made the right call—there are plenty of berries left.

Reaching in with both hands I begin indiscriminately pulling off the soft, warm fruit, purple juice running between my fingers, and I enjoy the speed with which my yogurt container fills. Occasionally I edit the picking and pull out wrinkled or moldy berries. But my quality control is lax, because soon the entire mooshy mess will land in a food processor anyway, the first step on the way to the fermentation bucket.

Picking Armenian blackberries is nearly the opposite experience of picking dewberries, when I have risked life and limb for a few small berries dangling just over the edge of an eight-foot embankment. Not this afternoon. I have only one commandment: thou shalt not work hard. Subsumed within this edict are a variety of subclauses; thou shalt not get up early nor walk too far nor climb steep hills nor reach too high nor bend too low nor teeter over precipices nor pick in places where the picking isn't perfect—or at least really good.

My strategy seems to fit what behavioral ecologists call “optimal foraging,” a theory built on the idea that organisms will maximize their energy intake by minimizing their energy investment over time. While I'm happy that the math works out for the ecologists, for me this is simply an exercise in intuitive laziness.

This laziness gives me the leeway to wander the byways of my mind. I think about all the years I spent fretting over the invasion of Eurasian blackberries onto our native landscapes. I think about how I never thought about all the other things that have come from Eurasia: fields of wheat or beds of kale or orchards of apples or hives of honeybees or ring-necked pheasants. We happily adopt all of these non-natives into our hybrid foodscapes, and most of our everyday experience occurs within this hybrid ecology, or perhaps more appropriately termed an *admixed* ecology because certainly there are more than two components being combined. Regardless, in the bone-cracking dryness of early autumn the Armenian blackberry has been happily incorporated into the local ecology. The gravel next to the patch that I'm now harvesting has deer tracks and dust baths of grouse and large piles of bear manure. A small mound of berry bits has been daintily deposited on a blackberry leaf by a Townsend's chipmunk. The dense brambles are a safe haven for Song Sparrows, Spotted Towhees, and brush rabbits. None of these animals care a whit about the invasive outcome of Luther Burbank's so-called “Himalayan” blackberry introduction to western North America.

This afternoon I don't care either, and after 15 pounds of not caring I am in danger of violating my no-work ethic. I decide to quit for the day. Returning to the pickup, I empty the yogurt container into a five-gallon bucket and then remove my hat to find that my sunglasses have disappeared from their perch, apparently snatched by an overreaching vine. Retracing my steps to look for the sunglasses, I find more berries and decide that while I'm at it I'll keep picking, and after a short time I'm picking more than I'm looking for the glasses. Oh well. The sunny season is nearly over and the sunglasses were scratched anyway, so I let them go, accept a minor littering offense, and continue foraging.

More berries. More time picking my way through my head. My personal ecology is admixed also. I dislike invasive species, yet my family was introduced here from England, Germany, and Italy. I despise clearcuts and use logging roads, hate the oil corporations and burn gas to go berry picking, revile the timber industry yet know that this was the livelihood of my ancestors and that I wouldn't be here without the felling of native forests. My internal ecosystem is absolutely rife with

these conflicts. A psychologist friend once told me that living with unresolved cognitive dissonance is a sign of good mental health. I had no idea that my brain was so healthy.

I fill my yogurt container two more times before the sun begins its rapid descent toward the western ridges and then force myself to stop so that I can get down the mountain before dark and water my newly grafted

apple trees. Climbing into the truck, I fire up the engine and begin to roll ahead. Glancing out the open driver's side window, I spot an incongruous shape beneath the brambles that looks like the black arc of a raven's primary feather. Setting the emergency brake, I slide out, retrieve my sunglasses, then roll down the hill for home.

Events of Interest in the Community

Lane County Audubon Society

Tuesday, 25 October, 7:30 pm. Travel to Chile With Four Local Birders. Dennis Arendt, Kit Larsen, Jim Regali, and Roger Robb will present many amazing photographs of exotic birds, such as Andean Condors, Royal Albatrosses, Magellanic Penguins, and little-known birds like Rufous-tailed Plantcutters and Many-colored Rush-Tyrants. 1645 High St.

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, 23 October, 1 – 3 pm. Scarecrow-building and Pumpkin-carving Workshop. Fee \$5 per scarecrow or pumpkin.

Sunday, 28 October, 10 am – 3 pm. Mushroom Festival. The festival is loaded with fun things to do for everyone in the family: great live music, food, arts and crafts, children's activities, hay rides, nature walks and a huge display of mushrooms. A wide variety of mushrooms, plants and arts and crafts will be on sale, with proceeds supporting the Arboretum's work in environmental education and habitat restoration. Bring the entire family (except the dog). Fee: \$5, Members and children under 12 free.

Saturday and Sunday, 3-4 November, 10 am – 5 pm. Mushrooming on the Mountain (two-day workshop). This class, led by Marcia Peeters, co-founder of Cascade Mycological Society, is for persons who want to learn about the Kingdom of Fungi rather than just find good ones to eat. Rain or shine. Fee: \$85.00 (MPA members/\$80). Registration required.

Saturday, 10 November, 10 am-3 pm. Play in the Rain Day. Come on out to MPA for our community's 5th annual *Play in the Rain Day. Discover how fun, easy, and rewarding it is to spend time outdoors in nature-in ALL kinds of weather. The day's activities will include hikes, horses, tree climbing, nature crafts, scavenger hunts, seed planting, campfire cookery, and more! Last year this fun event was attended by over 1,000 people. Sponsored by the Youth in Nature Partnership, a collaborative of local organizations that work closely with youth in the outdoors, Play in the Rain is a free family event for all ages. The event will go on rain or shine, so dress for the weather.

Nearby Nature

Saturday, 20 October, 5:30 – 9 pm. Haunted Hike! Nearby Nature guides will lead special night hikes along a festive pumpkin-lit trail through the Alton Baker Park woods. On each hike, folks will encounter all sorts of furry and feathered creatures of the night in costume, from a gigantic bat to a sneaky spider. Back at the decorated picnic shelter, folks will have a hooting, howling good time creating creepy crafts and gobbling up tricky treats. There will also be a great raffle of goods and services donated by generous local businesses. Haunted Hike is free for Nearby Nature members and \$5 per person for non-members. Groups are welcome. Pre-registration is required so be sure to call Nearby Nature soon at 541-687-9699 to reserve your space. Each hike lasts about an hour and folks are welcome to come early or stay after their scheduled hikes to enjoy the festivities. The hike is most appropriate for pre-school through elementary-aged kids, but adults love it too! The first hike goes out at 5:40 and the last at 7:40.

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

Free Admission Wednesdays, 11 am – 5 pm.

Saturday and Sunday, 27, 28 October, 11 am – 5 pm, Free Admission Weekend.

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

For information on current activities contact ngap@emeraldnpsoregon.org or look at <http://emerald.npsoregon.org/>

Monday, 15 October, 7:30 pm to 9:30 pm. Chris Hansen of the Oregon Natural Desert Association speaks on the Owyhee Canyonlands. The Oregon Natural Desert Association (ONDA) has been working to permanently protect the Owyhee, and we'll gather to show off some of the amazing images of this wild place. We'll share stories about hiking routes, Wild and Scenic River trips, sage grouse counts, and inland redband trout; and we'll talk about how to fill the Oregon desert wilderness gap. EWEB Training Room, 500 E. 4th Ave. For more information call 541-345-5531 or go to <http://onda.org>

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/>

Saturday, 20 October, 10 am – 2 pm. Family Exploration Day along the Tsanchiifin Trail. Participants will be able to catch insects, investigate plants, watch wildlife, and enjoy experiential learning in nature. WREN staff and volunteers will be on hand to check out nature exploration equipment and provide guidance for independent exploration of the summer wonders in the wetlands. Participants are asked to meet at the Yurt adjacent to the Red House/WREN's office, at 751 S. Danebo Avenue in Eugene. Bring a picnic lunch, water, sun hat, and wear sturdy shoes. No registration required. FREE! Thanks to a generous grant from the BLM.

Cascade Raptor Center

Friday, 11 November Noon to 5 pm, Cascades Raptor Center Salutes The Military. CRC welcomes veterans and active military and their families to the center for a FREE day of visiting the birds.

Oregon Archaeology Celebration 2012

Friday, 19 October, 5:30 pm. New Light on the Peopling of South America. By Anna Roosevelt. UO Knight Law School, 1515 Agate. Sponsored by UO Museum of Natural and Cultural History.

Booth sitters needed! If you read the MPA events, above, you know about the **Mushroom Festival** on Sunday, 28 Oct. We, ENHS, will have our booth there, as usual. Please consider spending a couple of hours minding our booth. We can tell you from personal experience, it's fun. Contact Dave Wagner: davidwagner@mac.com 541-344-3327

We welcome new members! To join ENHS, fill out the form below. You will receive *Nature Trails* through December of next 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

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

The following information is voluntary, but appreciated:

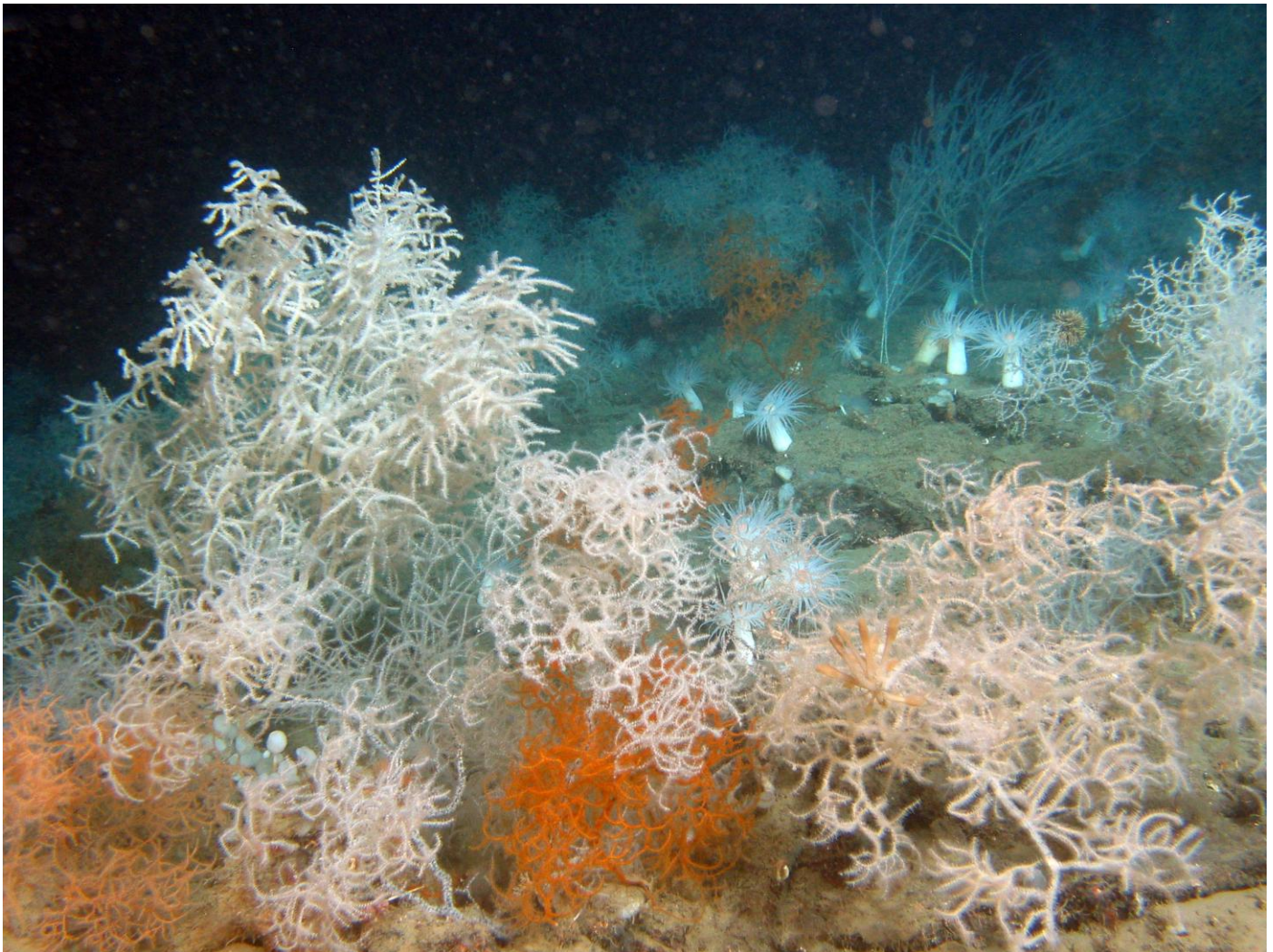
Would you like to: ___ lead field trips ___ teach informal classes ___ work on committees?

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 __Zoology __Other_____

If you're reading this, you're getting Nature Trails electronically. Please consider forwarding the newsletter to anyone you think might be interested in the current month's talk, and especially consider sending it to those who might be interested in joining our Society. Thanks.



ENHS Schedule of Speakers and Topics for 2012-2013

19 Oct. 2012	– Craig Young	– High Life in the Ocean Depths: the Biology of Deep-sea Mountains
16 Nov. 2012	– Jim Reichman	– Pocket Gophers as Ecosystem Engineers
14 Dec. 2012	– David Craig	– Avian Predator Ecology
18 Jan. 2013	– Marge Helzer	– Rimrock Draw Rock Shelter: Stones, Bones, and Seeds. – What Artifacts Tell Us About Life 10,000 Years Ago
15 Feb. 2013	– Ray Lowe	– Tidal Marsh Restoration on Bandon Marsh National Wildlife Refuge
15 Mar. 2013	– Gail Baker	– A Plant Ecologist's Dream Trip: The Floral Diversity of Australia
19 Apr. 2013	– Josh Roering	– Eel River Pleistocene Lake
17 May 2013	– Jason Dunham	– Bull Trout

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