

Glow: Living Lights Exhibit

by Siobhan Sullivan, Newsletter Editor



As you step into the new *Glow: Living Lights* exhibit, your eyes quickly adjust to the darkened room and the kiosks full of information related to bioluminescence. The word bioluminescence is derived from the Greek *bios* 'living' and *lumine* 'light'. Though many land species are bioluminescent, 90% of life in the sea has the ability to glow.

Several land-dwelling bioluminescent plants and animals are highlighted. There is a small model of a luminous land snail with its yellow-green light. The South American railroad worm is unique in that it glows in more than one color. The body segments put off a yellow-green light

and the head has two red lights that resemble headlights. A live Emperor scorpion, a species from West Africa, is featured in this part of the display.

Forty species of mushrooms have the characteristic of glowing. In the High Desert the world's largest living fungus, *Armillaria solidipes*, AKA the Humongous Fungus, glows. The specimen in Malheur National Forest covers an area of 3.4 square miles and is thought to be 2,400 years old. The bioluminescence of fungi may serve to attract insects that will spread their spore or serve as a defense mechanism to keep potential predators away.

Fireflies communicate by flashing their lights. A male firefly will flash its yellow light every six seconds while trying to attract a mate. If a female flashes within two seconds of his flashing, she is more likely to attract a male.

There are many examples of sea creatures with bioluminescence in this exhibit. From tiny copepods on up to siphonophores that are said to produce the "largest light show on earth". Most sea animals produce a bluish light and only see blue themselves. Red colors appear black under water so animals that are red are less visible to predators.

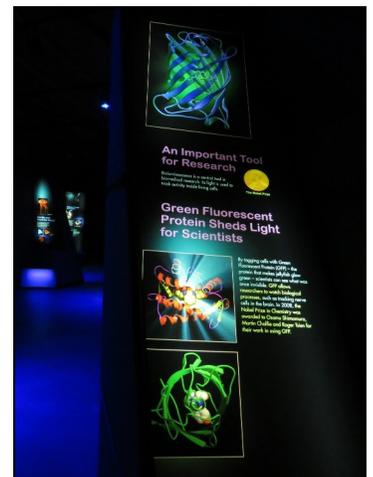
Several fish are featured. The dwarf lantern shark reaches only six inches in length. The flashlight fish has crescent-shaped lights under its eyes that help attract possible prey. The deep-sea anglerfish has a growth on top of its head that appears to be a fishing pole - complete with a wriggling worm. As one visitor remarked, "That is one ugly fish".

Several invertebrates are also featured. Sea pansies and sea pens both put out a greenish glow. Sea cucumber can clump together in a mass covered by a sticky skin-like coating. If they are disturbed, the coating lights up, peels off, and sticks to the predator making them a potential target. Some jellyfish have different flashing patterns that may indicate their territory or serve as a warning.

The role of bioluminescence in research is also discussed. Green Fluorescent Protein (GFP) allows scientists to watch biological processes. Luciferase and luciferin are used to track changes after giving

test animals cancer fighting drugs. If the treatment is working, the glow should decrease in intensity.

There are also a number of other practical applications for bioluminescence. It has been used in aerial surveys to locate schools of fish, ships, submarines, and missiles. It is used in the beverage bottling process to screen bottles for the presence of bacteria. Environmental pollutants can also be tracked through bioluminescence.



Central Oregon Attractions – Warm Springs Museum

by Siobhan Sullivan, Newsletter Editor



The Warm Springs Museum, located in Warm Springs, Oregon, is impressive inside and out. As you approach the building, note the interesting architecture that echoes some of the structures local tribes lived in. Be sure to view the building from the back as well. The building honors the Wasco, Warm Springs, and Northern Paiute tribes that reside in the Warm Springs Reservation area. There is a ¼ mile long interpretive trail behind the Museum.

Historically, the Paiute lived in a large area of Southeastern Oregon and traveled far in search of food. The Wascoes, or “river people”, lived east of The Dalles along the Columbia River and were primarily fishermen. The Warm Springs people lived in a large area in the vicinity of the current reservation. They moved between summer and winter villages and were more dependent on game, roots, and berries. There was a lot of trading that went on between the tribes for food and other resources.

Tribes looked to their elders for guidance and passed on traditions to their children. The family was the center of learning. Children learned subsistence skills such as basket making and hunting but also learned the value of traits such as patience and commitment.

Each tribe chose their own chief. They respected the values and traditions of other tribes. For example the seven drum religion of the Wasco was shared with other local tribes.

When white men entered the scene in the 1700’s, the importance of trade increased. Coffee, sugar, cloth, and especially beads, were valued trade items. Unfortunately the settlers also brought diseases that native people had very little immunity to. By the time Lewis and Clark arrived in 1804, the numbers of Native Americans had plummeted due to many succumbing to various diseases.



Exploration of the area by early settlers continued into the 1800’s. The Indian Removal Act was approved in 1830. In the 1840’s immigrants began moving to the area on the Oregon Trail. From 1840 to 1860, 250,000 settlers traversed the Oregon Trail. John C. Fremont explored the area that would become the Warm Springs Reservation in 1843.

In 1855 Native Americans were forced onto reservations. Most of their ancestral lands were ceded to the U.S. The Wasco and Warm Springs tribes ceded ten million acres.

The Northern Paiutes fought against scouts, soldiers, settlers, and other tribes in an attempt to keep their lands. They were finally defeated by General George Crook between 1866 to 1868 and forced on to the reservation.

The tribes were forced to give up their culture. Certain traditions were outlawed. Children were forced to at-

tend boarding schools. If they were caught speaking their native language they were given demerits.

The Warm Springs Museum preserves part of the past and passes on valuable information to future generations. A short film on the history





Native Americans lived in. A small, rustic cabin stands nearby. Tools of daily life are visible inside the structures.

There are a few parts of the exhibit that are interactive. A camera films you as you attempt to use a hoop and copy the moves playing in a video of the hoop dance. Another display features recordings of the languages of the three tribes living on the reservation.

The small gift store is a great place to browse for local products. There are several books on regional topics. Jewelry, bags, and colorful prints are also available. Huck-leberry jam and syrup are tempting to buy for yourself or as a gift for someone else. Boldly patterned Pendleton blankets are neatly tucked into shelves patiently waiting for someone to wrap themselves in their warmth.

If you are interested in the history of the Central Oregon area, consider a stop at this Museum. It is nicely laid out and has some remarkable artifacts in its collection. The information provided with the displays is interesting and may pique your curiosity into learning more. That is always a sign of a great museum.

Photos by Siobhan Sullivan



High Desert Museum Area Updates from June 2015

by Siobhan Sullivan, Newsletter Editor

Naturalists – The nature walks are going on every day. Fish talks have started and they have been well received. Twenty-five Master Naturalists recently listened to one of the talks. Talks are being given near the pond. The fish are fed during the talk. The team is happy to be getting a wooden table and tabletop folding display board to be used in talks and at events.

Living History - The Miller Ranch is now open from 11:00 am to 4:00 pm. A one-year old gelding mustang is currently being housed in the corral. The donkeys will soon be added to the Adopt-an-Animal program. There are two new interns at the ranch and their work allows the area to be open for longer hours. Two women who formerly worked at the Museum as teen volunteers are back to work as adults this summer. Picnic in the Past is scheduled for July 7. This year it will include a watermelon eating contest and a fire-arms demonstration by Steve Magidson.

Silver Sage Trading Center – A new t-shirt for the *Raptors of the Desert Sky* show is available. A small s'more kit is sure to make someone a happy camper. A foldout guide to Oregon wildlife has been very popular. A Lewis and Clark trivia game would be great for the budding history buff. The newest version of the *Roadside Geology of Oregon* is for sale. Room spray scented like Indian paintbrush flowers will freshen any room.

Mammals - They are now doing one *Carnivore* talk a day to replace the *Cat* talks they did before. There are more than 15 animals they can talk about. This talk is more technical than previous talks but is tailored to the age group of the audience. They are looking for a cart with a rack for pelts that could be used for the talks. The team continues to do two otter talks a day.

Wolf - They have applied to the *Mission Wolf* program, based in Colorado, to get two wolf ambassadors to visit the Museum next spring.

Admissions/Greeters - They have been very busy processing lots of people visiting the Museum. There has been an issue with Internet processing of credit cards but they hope to have it resolved soon.

Birds of Prey - The shows are going well. Two new interns will start on Monday. Two newly-trained volunteers are working on Tuesdays. If you are interested in working in the area, Mondays have been set aside for training.

Photography - They may be getting a teen volunteer next week.

Collections – Team members put together examples of baskets, moccasins, and gambling-related artifacts to be used in a talk put on by Bob Boyd. They have been busy putting away the *Brewing Culture* exhibit.

Introducing Damian Fagan, Communications Manager

by Lynne Schaefer, Newsletter Writer



Photo by Todd Carey

Recently hired as the Museum's communications manager, Damian Fagan served as a national park ranger in Utah, wrote birding magazine articles, published books about wildflowers, conducts hikes identifying birds, plants, wildflowers, wildlife tracks and scat, and teaches driver education among other activities.

The youngest of six children (three boys and three girls) grew up in "Clinton, Connecticut, the bluefish capital of the world," Damian said. "The bluefish is a fighting fish, always fun to catch, but not too good to eat. During their runs, we'd catch 40 to 50 a day and had a freezer full. That meant we had to eat them, but I didn't care for their oily taste."

Damian decided that after he finished high school, he would move to Seattle and attend the University of Washington. Every spring break, he and his college friends drove through Bend to backpack in Utah. After earning his Bachelor of Science in botany, he moved to Moab, Utah. In 1982 through the Student Conservation Association (SCA), Damian served a spring internship as a seasonal park ranger then spent 10 years as a seasonal seven-month park ranger in Arches National Park, Natural Bridges National Monument, and Canyonlands National Park. "I call them the ABC parks of southern Utah," Damian said.

College classmate and close friend Raven Tennyson accepted an assignment with the park service to Yosemite in California, then later, to Zion in Utah. Damian and Raven married in 1990 and lived in Moab to continue working as park rangers in the surrounding area. Their vacation travels led them to Mexico, Costa Rica, national parks in Thailand, and three months in Australia. "The bird life we saw was all pretty much new to us—macaws, cockatoos, and other tropical birds," Damian said. "Our next vacation destination will be New Zealand." Locally, they drive to the Oregon coast to watch pelagic birds offshore—albatross and shearwaters.

Damian's birding articles have appeared in *Birdwatcher's Digest* and children's magazines *Appleseeds* and *Faces*. In 1995 daughter Luna was born, and he published *Southwest Canyon Country Wildflowers*, a book with color photos he shot of wildflowers in Utah, Arizona, New Mexico, and Colorado.

The U.S. Forest Service and the Bureau of Land Management hired Damian as a biology contractor to take inventory of threatened and endangered bird species. After two years, he formed his own company and worked with the Nature Conservancy in Utah at the Scott M. Matheson Wetlands Preserve.

In 2004 the Fagans moved to Bend and enrolled in a family membership at the High Desert Museum. Through a Bend community learning program, Damian conducted walks about backyard birding, field trips to see waterfowls at Hatfield Ponds, and around the Cascade Lakes to identify owls by their calls. He led hikes to identify wildlife tracks and scat, and spoke to gardening groups about plants and flowers. In 2006 he published *Pacific Northwest Guide to Common Wildflowers* in Washington, Oregon, Northern California, Western Idaho, Southeast Alaska, and British Columbia, all with color photos he shot.

Damian and Raven enjoy gardening of their own. Three backyard chickens—an Americana and two Buff Orpingtons—supply the Fagans with eggs fresh from hen to table. In addition to an 11-year old German shepherd adopted from the Humane Society three years ago, Raven runs a dog boarding and day care business. She recently joined the Museum's wildlife volunteers. After work, Damian helps to walk the dogs. "Driver's ed [classes] will be the first to go" from Damian's full schedule.

On staff for two months, Damian helps edit the *Desert Sage* newspaper of Museum scheduled events mailed to members, issues press releases, and works on social media and the website.

"I bring the biological side to writing," Damian said. "Facebook and Twitter are learning curves for me, and I'd like to organize the photos so they are more easily accessible."

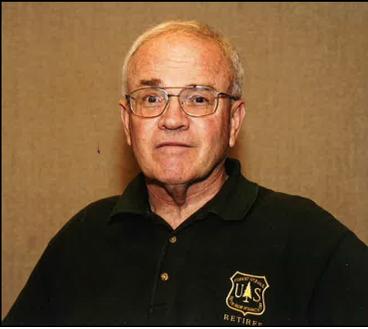
Kudos Korner

by Siobhan Sullivan, Newsletter Editor

Several staff and volunteers were thanked for their work in June. The new *Glow: Living Lights* exhibit required lots of extra work to get it set up on time. **Dave Wolf** was thanked for coming in very early in the morning to get all of the electrical work done. **Dustin Cockerham** and **Kolin Buzerak** drove all the way to Pullman, WA to pick up the exhibit and bring it back to the Museum. They put in an 18-hour day to get the job done. When they arrived at the Museum, they and about 23 other **staff** members were there to help unload it and get it set up. Wow! The Volunteer Recognition Committee was thanked for their work on revising the awards programs. **Steve and Cyndi Magidson** put in a lot of time on this committee and their work was recognized. Kudos to all of you!

Introducing Les Joslin, Team Lead High Desert Ranger Station

by Dave Gilbert, Newsletter Writer



File Photo

Riddle: What volunteer worked from a High Desert Museum exhibit 20 years before the museum even existed?

Answer: Les Joslin. The exhibit is the one-room green-and-white ranger station every visitor passes on the way to the museum parking lot.

Joslin was a seasonal member of the U.S. Forest Service on the Toiyabe National Forest from 1962 to 1966, first as a firefighter, then as a fire prevention officer. The one-room ranger station was the district ranger's office in Bridgeport, Calif.

Between then and now, Les has had two complete careers, written half a dozen books, and is nearing completion of another. He doesn't sit for long, and last summer, at the age of 71, he completed his goal of hiking every mile of the

Pacific Crest Trail in Oregon. He's been a museum volunteer for more than ten years.

Les is friendly in a straight-laced sort of way. He's neat in appearance, with closely trimmed white hair and wire-rimmed glasses that accent his large eyes. His speech is precise, and he sometimes addresses even friends as "sir." If your first impression is "military," you would be right.

His father was a "dirt poor" farm kid in Mississippi who joined the U.S. Navy well before World War II, and made it a career. His mother was also the child of a Navy man. Les is the eldest of three sons.

His childhood, Les says, was spent "chasing ship ports and shore stations," from Boston to Long Beach to Bremerton...the list is long. In the 9th grade he lived in Philadelphia; he finished high school in Monterey.

He went to the University of California in Berkeley for a few semesters until the violence of the 1960's persuaded him to go elsewhere. He graduated in 1966 from San Jose State College, with a degree in geography.

To avert the draft, Les followed family precedence and joined the Navy. Awaiting officer candidate school, he taught school for a few months in Tennessee and worked a fifth season for the Forest Service in Bridgeport.

The Navy trained him in air intelligence. While serving on an aircraft carrier in the Mediterranean, the ship made port at Corfu, a picturesque Greek island. There, he met a English girl, Pat, who was on holiday from her home in Bern, Switzerland.

"I told her 'if you show me Bern, I'll show you San Francisco,'" Les said. She took him up on it. He was stationed in Denver when they married at the end of 1970.

The Navy sent Les for a master's degree at the University of Colorado; he earned another at the University of London. He served 22 years and retired in 1988 with the rank of commander. Les and Pat have two daughters, Amy, a state employee in Salem, and Wendy, a wildland fire professional for the Forest Service

After he left the Navy, Les and Pat moved to Sunriver where he volunteered at the fire department for eight years and the Forest Service for ten.

Enter career number two. The Bend-Fort Rock Ranger District hired Les as a wilderness ranger for four years and recreation staff officer for two. He also taught geography and political science for Central Oregon Community College and wilderness management for Oregon State University.

Les and Pat now have a home on Awbrey Butte.

The Forest Service was nearing its centennial and when he suggested a commemorative exhibit to Bob Boyd, then the Museum's curator of western history. "He jumped at it," Les says.

As the two men worked on plans for the exhibit, Boyd mentioned a vacant Forest Service cabin he knew about in Nevada. This time it was Les who jumped.

"Would it be on the Reese River...40 miles south of Austin?" he asked. It was. That's where his old Bridgeport headquarters ended up, retired and unused.

The two men managed to get the Forest Service to put it on "permanent loan" to the Museum and set about moving it to its present site in June 2008.

The next year it was open to visitors. Les recruited and trained a corps of volunteers, many of them retired from the Forest Service. He calls them a "happy little group."

While his activities are many, Les has special feeling for the High Desert Museum. "It's world class," he says. "It's one of the things that make Central Oregon such a great place."

Birding Around Bend

by Siobhan Sullivan, Newsletter Editor



A fluttering of wings draws my eyes. An unknown call turns my head. Finding birds and figuring out what they are is like working as an investigative detective. You notice things that don't fit into the puzzle that forms the background environment. I'm no expert but I look for clues such as the silhouette, size, markings, behavior, and sound. Apps such as *iBird* and various field guides help you narrow down the list of possible suspects. Sometimes you know what something is right away; other times you need to confer with others. There are times when you have only a fleeting glimpse so then you might refer to the bird as an LBJ – Little Brown Jobbie.

Though Bend is located in a desert environment, there is no shortage in the number and variety of birds that live here. We are fortunate that there are so many organizations involved in educating visitors and residents about the wealth of feathered creatures in the area. I have been on birding walks with the High Desert Museum, East Cascades Audubon Society, Sunriver Nature Center, and Deschutes Land Trust. People who go on the walks range from novice to very experienced birders.

Many of the guided walks have one thing in common – water. Even in my own yard a water feature attracts birds like some super powerful magnet. Lakes, rivers, ponds, and even small backyard water features, draw birds in.

I see a rainbow of birds in my backyard from the comfort of my La-Z-Boy recliner. The constant flurry of activity includes the brilliant blue of mountain bluebirds, yellow of lesser goldfinches, red of Cassin's finch, impossibly smooth tannish-brown and butter yellow of cedar waxwings, and soft gray of mourning and Eurasian collared-doves. A sharp-shinned hawk occasionally comes in for a quick meal. I also get to see unusual visitors such as leucistic American robins and dark-eyed juncos. Leucistic birds have plumage that is partially white and they really catch your eye.



Deschutes County has a wide variety of habitats ranging from high elevation mountains with alpine plant communities to lower elevation sagebrush steppe. You might see gray-crowned rosy finches on the way up South Sister or sage grouse on a lek at lower elevations near Millican. Several websites list birds you are likely to see at various locations. The *Birding Oregon* site has some detailed information on where to go. Here is the Deschutes County link <http://birdingoregon.info/Home/DeschutesCounty/tabid/168/Default.aspx>.

One of the hotspots in Deschutes County is Hatfield Lake, a wastewater-treatment facility. Nearly 200 species have been observed at this location just north of the Bend Municipal Airport. It also holds the distinction of producing more rare bird sightings than just about any other location in Central Oregon. There are websites such as <http://lists.oregonstate.edu/mailman/listinfo/cobol> where people share sightings from

this and other locations.

There are also opportunities to look for specific types of birds. In September and October the East Cascades Audubon Society (ECAS), records the number and types of hawks and other raptors migrating over Green Ridge, located near Sisters, OR. The High Desert Museum (HDM) works in cooperation with ECAS at this event. Up to 16 different species have been observed there during the count. They have seen nearly 500 birds on their best days. In mid-June, ECAS also puts on the Dean Hale Woodpecker Festival where participants go out in search of the 11 species that live in the area.

Damian Fagan, recently hired by HDM, takes participants out on a Museum-sponsored field trip. The Museum and US Forest Service are involved in a bird banding study. Limited space is available on field trips to the study site at Ryan Ranch Meadow.

If you ever want to learn more about birds in this area, take advantage of some of the many field trips available. Participants are always willing to help you spot birds – no matter what your level of expertise is.

Photos by Siobhan Sullivan





Don't miss the Raptors of the Desert Sky Program



Photos by Lee Schaefer & Abbott Schindler

Save THE Date

U
HIGH DESERT
RENDEZVOUS
2015

**SILENT AND LIVE
AUCTIONS!**

Raffle, Gambling, Dinner,
Hosted Saloon AND Live Music

MADE POSSIBLE BY

**BANK OF THE
CASCADES**



All proceeds support the education programs of the High Desert Museum.
www.HighDesertRendezvous.net | 541-382-4754 ext. 365 | hdr@HighDesertMuseum.org

Art of the West exhibit opening July 31, 2015.

The juried art in this exhibit will be auctioned off at the High Desert Rendezvous silent and live auctions on Saturday August 29. Proceeds support the Museum's educational programs.

For more information, go to
www.HighDesertRendezvous.net

High Desert Voices

Editor: Siobhan Sullivan

Team Leader: Siobhan Sullivan

Contributing Writers: Dave Gilbert, Lynne Schaefer, & Siobhan Sullivan

Proofreading/Editing:

Computer: Ralph Berry & Siobhan Sullivan

Photographs: Lee Schaefer, Abbott Schindler, & Siobhan Sullivan

Printing: Ralph Berry & Siobhan Sullivan



*The
High Desert
Museum, Inc.*
59800 S. Highway 97
Bend, OR 97702

2015



2015

Kitchen patrol: Teens & Newsletter

July

- 1-31 **Raptors of the Desert Sky.** 12:30 - 1:00 pm. Members \$2; Non-members \$3, plus admission. Kids 4 and under, free.
- 4 **Museum closed.**
- 7 **Picnic in the Past**—Featuring the Thorn Hollow String Band. 6:00 - 8:00 pm. Members \$3/person and \$10/family; Non-members \$5/person and \$20/family. RSVP.
- 14 **Field Trip: Cascade Carnivores.** 8:00 am - 12:00 pm. Members \$10; Non-members \$15. Registration and pre-payment required. [www. highdesertmuseum.org/field-trip](http://www.highdesertmuseum.org/field-trip) .
- 17 **Field Trip: Bird Banding.** 8:00 am - 11:00 am. Members \$10; Non-members \$15. Registration and pre-payment required. [www. highdesertmuseum.org/field-trip](http://www.highdesertmuseum.org/field-trip) .
- 17 **Bat Walk.** 8:30 - 9:30 pm. Members \$5; Non-members \$10. RSVP.
- 25 **Field Trip: A Bird in the Hand.** 8:00 am - 11:00 am. Members \$10; Non-members \$15. Registration and pre-payment required. [www. highdesertmuseum.org/field-trip](http://www.highdesertmuseum.org/field-trip) .
- 26 **Exhibit Closes: Growing Up Western.**
- 30 **Art of the West Opening Reception.** 6:00 - 8:00 pm. RSVP.
- 31 **Exhibit Opening: Art of the West.**

To RSVP: www.highdesertmuseum.org/rsvp or
541-382-4754 ext. 241

To pre-register: www.highdesertmuseum.org/program

August — Save the Date!

- 1-31 **Raptors of the Desert Sky.** 12:30 - 1:00 pm. Members \$2; Non-members \$3, plus admission. Kids 4 and under, free.
- 1 **Thorn Hollow String Band.** 11:00 am - 3:00 pm.
- 6 **Teacher Training: Into the Field.** 8:30 am - 3:30 pm. \$10. Registration and pre-payment required. [www. highdesertmuseum.org/teacher-workshop](http://www.highdesertmuseum.org/teacher-workshop) .
- 8-9 **Frontier Township Days.** 9:00 am - 3:00 pm. Free.
- 11 **Teacher Training: Into the Field.** 8:30 am - 3:30 pm. \$10. Registration and pre-payment required. [www. highdesertmuseum.org/teacher-workshop](http://www.highdesertmuseum.org/teacher-workshop) .
- 13 **Evening Lecture: Cougar Behavior on the Urban-Wildland Interface.** 6:00 pm. Members \$3; Non-members \$5. RSVP.
- 14 **Bat Walk.** 8:30 - 9:30 pm. Members \$5; Non-members \$10. RSVP.
- 19 **Museum and Me.** 5:00 - 8:00 pm. Free. RSVP.
- 22 **Field Trip: Cascade Carnivores.** 8:00 am - 12:00 pm. Members \$10; Non-members \$15. Registration and pre-payment required. [www. highdesertmuseum.org/field-trip](http://www.highdesertmuseum.org/field-trip) .
- 29 **High Desert Rendezvous.** 5:00 - 9:00 pm. Members \$150/person, \$300/couple, \$150/additional guest, Table of 8 \$2,000 sponsorship, Table of 10 \$3,000 sponsorship; Non-member \$200/person, \$350/couple. Purchase tickets on the link at <http://www.highdesertmuseum.org/high-desert-rendezvous-0> .