History Matters!

By Jon Erlandson, Executive Director

Museums exist for many reasons, not least of which is to educate and entertain people. For the past decade, the UO Museum of Natural and Cultural History (MNCH) has been increasing its exhibit space and enhancing its public programs to engage our diverse audiences. This winter, we will open Explore Oregon!—a major new exhibit hall devoted to the geology, paleontology, and natural history of the Pacific Northwest. We are very excited to expand our coverage of Oregon’s deep history, highlighting its amazing landscapes and life forms, and sharing specimens from our collections that have never before been on public display.

Many university museums, including the MNCH, also care for large collections that are the focus of ongoing research. Our collections of roughly one million objects include many world-class specimens—the fascinating saber-toothed salmon, the world’s oldest.

shoes, and many more—that attract researchers from around the world.

Why do we collect and care for such curios? One reason is to preserve the history of our species and our planet simply because they are interesting. More importantly, as new research methods—such as radiocarbon dating and analysis of ancient DNA—are continually developed and refined, scientists are able to learn new things from old collections. Another significant reason is that paleoecology (the study of ancient climate, organisms, ecosystems, and environments) plays an increasingly important role in understanding how climate change may affect us in the future, how to manage our natural resources more sustainably, and even how to save endangered species or restore damaged ecosystems.

Archeology, history, paleontology, and paleoecology are key components of the emerging field of historical ecology, which strives to understand how plants, animals, and ecosystems have changed over time and the effects humans have had on them over the millennia. How many people know that camels, horses, mammoths, and ground sloths lived right here in Oregon until they went extinct just 13,000 years ago? Should we, as some scholars have proposed, allow horses, llamas, and elephants to roam freely again to help restore some semblance of the “natural” environment that existed here before humans arrived? For those interested in conserving condors, albatrosses, whales, and other endangered or threatened species, analysis of archaeological and paleontological specimens can tell us where such animals lived in the past, what they ate, what the environment was like at the time, how diverse or different their DNA was in the past, and more.

This kind of information is increasingly important to preservation, conservation, and restoration efforts worldwide. For such purposes, a steady stream of researchers visits the MNCH to analyze the artifacts, fossils, and biological specimens in our collections. Data derived from museum collections are actively contributing to the restoration of species, wetlands, fisheries, forests, and ecosystems around the world. The past, present, and future are intertwined. History matters, and so do museums. Thanks for your continuing support!

Legislature Funds Museum Projects

Near the close of the 2013 lawmaking session, the Oregon Legislature passed a capital construction bill that includes $990,000 for MNCH projects. The funds will allow us to buy new, archival-quality cabinets that will substantially upgrade our collections storage facilities. The funds, along with additional support from the UO President’s Office, will also help facilitate the transfer of the Jensen Arctic Collection from Western Oregon University to the MNCH. In passing the bill, the legislature has recognized the museum’s vital role in protecting significant collections and preserving our collective heritage for generations to come. We are deeply indebted to State Representative Nancy Nathanson (D-Eugene), Betsy Boyd of UO Public and Government Affairs, and UO President Michael Gottfredson for their advocacy. A big thanks to you all!
Learning from the Past, Looking to the Future

By Tom Connolly,
Director of Archaeological Research

Paleoecology, the study of past ecosystems, is a fundamental component of archaeology. We learn a great deal about human societies—both ancient and historical—when we investigate the ways that they interacted with their environment. Major cultural changes can often be attributed to environmental changes: The declines of Angkor Wat in Cambodia and of the Anasazi of the American Southwest, as well as the American Dustbowl migrations of the 1930s, all can be understood as products of climate change.

Museum archaeologist Dennis Jenkins has been working for decades in the Northern Great Basin of southeast Oregon. The landscape there has changed over time—from productive lakes and marshes to deserts, sand dunes, and dry playas. Charting these changes is key to understanding human settlement patterns in the region. After assessing radiocarbon dates from local caves, archaeologists in the 1980s hypothesized that the region may have been abandoned about 4,000 to 6,000 years ago. Jenkins has since shown that this was a time of abundance, and that substantial houses with storage pits served as residential centers for robust populations on the margins of lakes and sloughs. The caves, it now appears, served primarily as short-term shelters for more mobile folks during times of less abundance.

Interest in how we humans relate to the environment is not just a concern of the past. The acceleration in global warming will have a dramatic effect on continental margins, likely displacing millions of people in decades to come. Rising sea levels are already devastating coastal archaeological sites. Along the coast of Curry County, for example, is a prehistoric site known as 35CU156. The site was listed on the National Register of Historic Places in 1997. In 2010 we found that coastal erosion had destroyed it. Sadly, this National Register treasure was delisted in 2010.

Human societies are not simply in a position to respond to environmental change; we are also active players in bringing it about. But whatever the source, change is inevitable—and, as has been the case for societies through the ages, our success will depend on our adaptability and our ability to learn from the past.
California Here We Come

By Greg Retallack
Codirector, Condon Collection

Understanding the paleoecology of fossil plants is hard work. Each leaf needs a slab of rock big enough to support its outline, and often the rock is hard and fractured. Thousands of leaves are needed to fully assess the composition of a fossil flora. You just keep quarrying until there are no new kinds of leaves turning up. My colleague Kirk Johnson, now director of the Smithsonian Natural History Museum, calls this kind of research “muscular paleobotany.”

One reason for doing this hard work is to discover how plant communities adapt to changes in climate. It helps to have teams of students quarrying, sorting, and carrying, as we did for three years while collecting the Cape Blanco flora for Lisa Emerson’s PhD thesis of 2009. Cape Blanco is located on Oregon’s southern coast, and its fossil flora was full of surprises. Entombed in volcanic ash dated to 18 million years ago, the fossil plants lived at a time when atmospheric carbon dioxide levels were much higher than today’s—but close to what is expected by the year 2100. The Cape Blanco area now supports coastal grasslands and spruce forests, but at that time it was home to live oak, tanoak, and other plants characteristic of the northern Great Valley of California. This kind of northward migration of California summer-dry flora is predicted by some computer models for the coming century, as well—and when fossils and computers agree, it is important validation.

Northward migrations are also indicated by my colleague Dan Gavin’s documentation of a large stump of coast redwood—some 1,850 years old—near Waldport, Oregon. With predicted climate changes, the southern Oregon Coast Range may become essential for the survival of the redwoods, which have a long fossil record.

Our “back to the future” studies of fossil plants are showing what Oregon may look like in AD 2100, and like it or not, California is coming to Oregon. Like plant communities, human societies need to adapt to climate change, and paleoecological research can help us do this: The more we know about what has happened in the past, the better we can prepare for our future.
Collections Research Gives New Ecological Insights

By Pamela Endzweig, Director of Anthropological Collections

In his lead article, Jon Erlandson discusses the importance of museum collections for research in historical ecology. Salmon are a recurring theme in our region, and curated archaeological collections continue to provide valuable insights about changes in salmonid populations. Visitors to our exhibits can view prehistoric salmon bones from the Roadcut Site near The Dalles. More than 8,000 years old, they document the importance of Columbia River fisheries over many millennia.

In a recent study, researchers from three North American universities teamed up to examine MNCH's collection of archaeological salmon bones from the Upper Klamath Basin. As the researchers reported:

Anadromous salmonids are thought to have been extirpated by late 19th and early 20th century hydro-power development. Pre-development species distributions can be estimated using historical records (e.g., explorer accounts, newspapers, and ethnographic records of indigenous fisheries), but taxonomic identifications can be ambiguous and in the absence of actual collected material, difficult to verify. Fish remains from archaeological sites represent independent and important sources of knowledge about predevelopment species distribution.


The team studied fish bones from six archaeological sites occupied by Native Americans from about 8,000 years ago until after Euroamerican contact. They were excavated over some sixty years by MNCH archaeologists, including Luther Cressman in the 1940s and Tom Connolly's crew in 2006–9.

Of more than 15,000 fish bones examined, 191 were identified as salmonids. DNA analysis found both Oncorhynchus tshawytscha (Chinook salmon) and O. mykiss (steelhead or rainbow trout, depending on whether migratory or not) from each site, with bones suitable for genetic sequencing. Further DNA analysis and geochemistry (measuring concentrations of strontium and calcium) differentiated between anadromous and resident freshwater forms of O. mykiss. A high frequency of head parts suggested that the fish were locally obtained rather than traded, and body size reconstructions based on vertebral measurements provided additional information. Radiocarbon dates clarified age and historical context.

Archaeological studies like this are highly relevant, contributing critical information to current salmon conservation efforts. History does matter and insights gained from the past can help address today's ecological challenges. This is one of many reasons museums—repositories of priceless and irreplaceable collections—exist.

A Visit from the Portland Art Museum’s Native American Art Council

Members of the Native American Art Council at the Portland Art Museum (PAM) toured the MNCH in May. Pamela Endzweig, director of anthropological collections, led the visitors on a tour through the collections vault, and then the group joined MNCH staff members for a luncheon at the Many Nations Longhouse, hosted by Longhouse Steward Gordon Bettles. It was great to see our friend Deana Dartt-Newton, who received her PhD in anthropology from the UO and is now curator of Native American art at the PAM.
Talk about time travel: UO President Michael Gottfredson, Eugene Mayor Kitty Piercy, and a group of UO alumni, donors, and staff members walked in the footsteps of 10,000-year-old shoes during a recent trip to south-central Oregon.

The area is known as the Oregon Outback, and it was once covered by vast lakes and marshes that provided food for the continent’s first families. Now dried up, the Summer Lake and Fort Rock Basins are covered with sagebrush, rabbit brush, and other plants typical of Oregon’s high desert plateau.

Dennis Jenkins and Tom Connolly led the group through this dramatic terrain, exploring key cultural sites and discussing the research conducted in the area by museum archaeologists. Participants toured the Paisley Caves, where some of the continent’s earliest residents lived nearly 14,500 years ago. They also visited Fort Rock Cave, where the 10,000-year-old shoes—the world’s oldest footwear, made of sagebrush bark—were found beneath a layer of volcanic ash. The final stop of the tour was Paulina Peak of the Newberry National Volcanic Monument. Nearly 8,000 feet above sea level, the peak overlooks majestic geologic features formed by volcanic activity. The caldera there houses lava flows, obsidian domes, and East Lake and Paulina Lake, where Native American communities lived 11,000 years ago.

“It is exciting to see first-hand the sites where this world-class research takes place,” said President Gottfredson during July’s Oregon Outback excursion.

Tour participants included President Gottfredson’s wife, Karol; Mayor Piercy’s husband, David; UO Interim Provost Scott Coltrane and his wife, Wendy; UO supporters Scott and Kellie Chambers and Mike and Penny Wilkes; Museum Advisory Council member Ty Zeller and her husband, Richard; as well as MNCH Executive Director Jon Erlandson and other museum staff members.

In Memoriam: Philip D. Young 1936–2013

Phil Young, professor emeritus in anthropology and long-time museum supporter, passed away suddenly on June 30. He was a well-known cultural anthropologist specializing in Latin America. Phil served on the Friends Board in the early 1990s and was instrumental in establishing ties between the MNCH and the wider campus community. He continued to be a museum member and supporter throughout his life.
MNCH Archaeologists Honored with Heritage Excellence Award

Oregon Archaeology, coauthored by C. Melvin Aikens, Thomas Connolly, and Dennis Jenkins, received a 2013 Oregon Heritage Excellence Award this spring from the Oregon Heritage Commission. The award recognizes the book as a definitive text on Oregon’s human history and as an outstanding contribution to the field of archaeology in the state.

Jon Erlandson Elected to American Academy of Arts and Sciences

MNCH Executive Director Jon Erlandson, whose research has found some of the earliest evidence of seafaring societies in the Americas, was among the newly elected members of the American Academy of Arts and Sciences in 2013. One of the nation’s most prestigious honorary societies, the academy is also a leading center for independent policy research, convening leaders from the academic, government, and business sectors to respond to national and global issues.

MNCH Welcomes New Graduate Laurel Awardees

Each year, the museum offers Laurel Award internships to outstanding graduate students with academic or career interests relating to museums. This fall, we’re excited to welcome two new awardees: Steve Dobrinich and Carrie Morton.

Steve grew up in Brecksville, Ohio, and earned a bachelor’s degree in urban planning from the University of Cincinnati. This fall, Steve will begin work as the museum’s campus outreach coordinator while pursuing his master’s degree in community and regional planning.

Carrie, who begins her graduate studies in the UO arts and administration program this fall, comes to Eugene from Austin, Texas. She earned her bachelor of fine arts in communication design from Texas State University and is looking forward to using her design background in a museum setting.

Pamela Endzweig Appointed to State Preservation Cabinet

We are pleased to announce that Pamela Endzweig, director of anthropological collections at the MNCH, has been appointed to the Oregon Collections Preservation Cabinet by the Oregon Heritage Commission. As a founding member of the newly established cabinet, she will play a central role in improving the care of heritage collections across the state.

Tom Connolly Discusses MNCH Research at UO Alumni Event

Tom Connolly, the museum’s director of archaeological research, was invited by the UO Alumni Association to kick off its summer lecture series, Portland Science Nights. Alumni gathered at Widmer Brothers Brewing for the June 26 event, joining Connolly for a discussion about ancient fiber artifacts like the famous Fort Rock Cave sandals—and no doubt, enjoying the Widmer brews, as well!
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A purchase at Past and Presents—the Mary Lee Ward Museum Store—is a gift to the museum and its educational programs. Admission to the store is always free. MNCH members receive a 10 percent discount on store purchases.

Come see what’s in store for you this fall! Our inventory includes full-color Ray Troll posters and the book, Cruisin’ the Fossil Freeway, written by paleontologist Kirk Johnson and illustrated by Troll. Pick up your copy today—and don’t forget to join us for Ray Troll’s book signing event on Friday, September 20, from 6:00 to 8:00 p.m. See the Program Guide in this issue for details.

We’ve got two specials running while supplies last: Get a museum tote bag for 50 percent off with the purchase of any book (excludes children’s books). These reusable canvas bags are perfect for books, groceries, you name it! Also, MNCH commuter mugs are on sale—buy one and get one free!