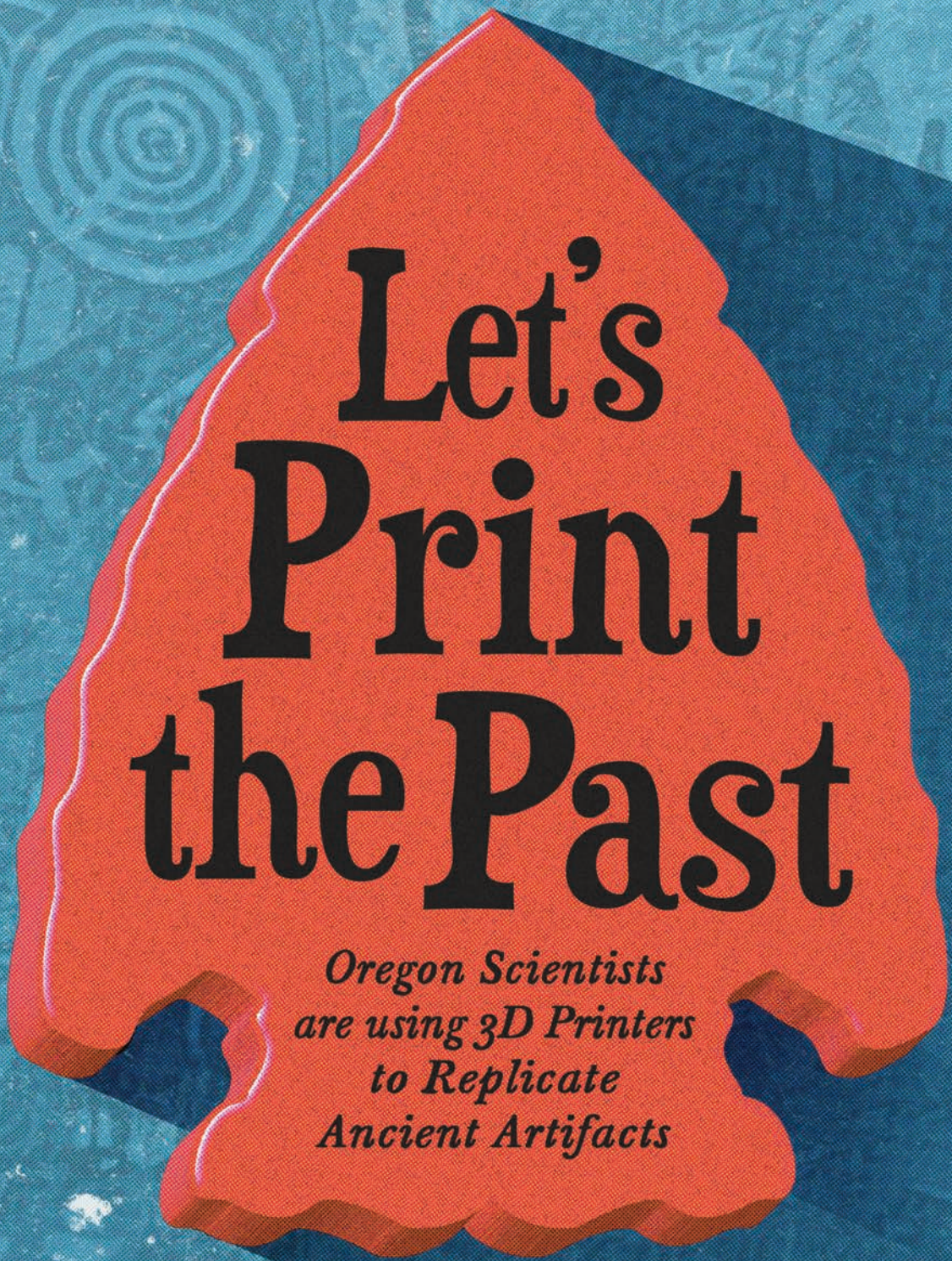
LAND SPEED RECORD · THE WILDEST FLOWERS · CHASING WATERFALLS

northwest

THE MAGAZINE OF OUTDOOR ADVENTURE



Let's Print the Past

Oregon Scientists are using 3D Printers to Replicate Ancient Artifacts

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SPRING 2017

Start Here

A BRIEF NOTE FROM US

As the new state director for BLM Oregon-Washington, I'm delighted to announce a new way for the public to enjoy, conserve and connect to the opportunities available on our public lands. It's a publication, aptly named "Northwest: The Magazine of Outdoor Adventure."

Inside this issue, we feature stories that highlight our best efforts at fulfilling our mission of multiple use, sustained yield and conservation. Inside these pages you'll see articles highlighting our partnerships in archaeology, the underwater work of one of our fish biologists, a namesake incident from Washington State history, and a barrier-breaking woman's world record attempt on public lands, all along with numerous opportunities for unheralded recreation, whether that is discovering spring wildflowers or secluded waterfalls.

My 31-year career has taken me throughout the West and Washington D.C.—most recently to Montana, where I served as the state director since 2010—and I'm always impressed by the way we improve and broaden the way we tell our story as an agency. I hope you'll agree that this new magazine is an excellent complement to the array of communications tools that we use in Oregon and Washington—from the cutting-edge technology of our 360-degree videos and social media accounts to our traditional news releases.

As you can imagine, with people, activities and resources thriving across more than 16 million acres of public land and resources in two states, there are many diverse stories from the Northwest. In fact, narrowing down the breadth of prospective stories to a handful for this publication is no easy feat. In recognition of this, I want to thank our Office of Communications for their thought-provoking and engaging work. This magazine truly puts the "adventure" in the Northwest's public lands!

I know you'll enjoy this magazine, maybe learn something new, and certainly feel more connected to your public lands.

Thanks for reading.

–Jamie Connell, State Director

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A LITTLE BIT ABOUT WHAT'S INSIDE

AND SO, THE JOURNEY.

The Clearest Way into the Universe is through a Forest Wilderness.

—John Muir

BLM/OR/WA/PL-17/011+1792

The Fish Whisperer

Bruce Zoellick is a professional fish counter. He's also a fish biologist for the BLM. If he isn't snorkeling underwater with a GoPro camera to count spring chinook he's hatching conservation plans to preserve wild fisheries in northwest Oregon. We caught up with Zoellick between river trips for six quick questions.

Favorite BLM field trip?
Fish habitat inventory by inflatable kayak on Battle Creek, a 35-mile-long tributary in the Owyhee Canyonlands that is only boatable for one week each spring when the snow melts off the desert.

Typical riverside lunch?
My wife will kill me over this, but I usually just have some French bread and cheddar cheese.

Oldest field tool?
Loomis GLX multi-directional distance compensating ichthyology probe—that's a fly rod. Sometimes when hiking for miles across desert or into a deep canyon, a fishing rod that weighs a few ounces is the best tool to carry for determining fish abundance. But yeah, you gotta know how to fly-fish.

Bucket List River?
I have to go to the Skeena River, in northern British Columbia. Most of it is in an area that hasn't had much development. You're almost to Alaska up there; and it's a mecca for fly-fishing summer steelhead.

Crazy fish biologist story?
One time while doing stream inventory in the Bruneau Basin, in Idaho, I saw huge redband trout swimming in a plunge pool at the bottom of a 100-foot-tall waterfall. All the fish were big—8 to 12 inches—but there was one dead on the shore that measured 15.5 inches! It had a mouse in its mouth and likely suffocated after trying to eat it! It's totally crazy to find a giant fish like that on a tiny stream!

If Rule No. 1 of field-going is safety, what is Rule No. 2?
Be inquisitive and look for patterns.

Photo of Bruce Zoellick by Maria Thi Mai/BLM


Hello Spring.
Say so long to winter and hello to your public lands.
Oregon boasts some of the most beautiful and natural spring break destinations. Load up the family truckster and explore all the Pacific Northwest has to offer.
YOUR NEXT BIG ADVENTURE BEGINS RIGHT NOW AT RECREATION.GOV

CALL OF THE WILD

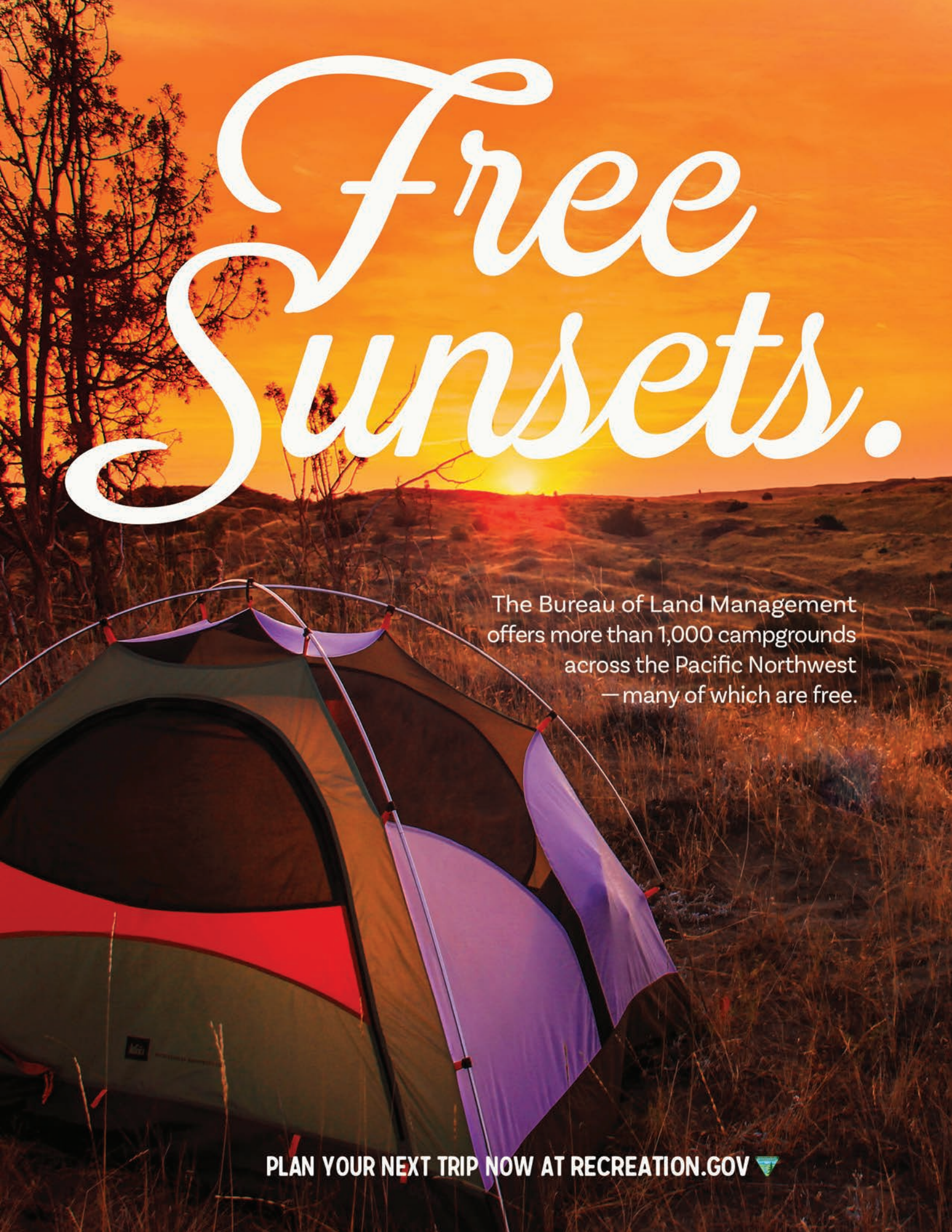
For many, the coming of spring means one thing: wildflowers. In the Pacific Northwest, we have it pretty good. Whether visiting eastern deserts, central river valleys or western sea shores, wildflowers are abundant. Here are four of our favorite spots:

Marys Peak, west of Corvallis, is the highest point in the Oregon Coast Range and a botanical mecca for wildflower lovers. At the summit, hikers won't know whether to look at the spectacular views of the Willamette Valley and Cascade peaks, or the rolling meadows of flowers all around them. *Look for: tiger lily; spring gold; glacier lily; spreading phlox; and others.*

Surrounded by miles of sagebrush, the 9,700-foot-tall **Steens Mountain** in southeast Oregon has multiple layers of wildflower ecosystems, from the low desert to the aspen groves and woodlands in the middle, all the way up to the alpine meadows. Stick to the 52-mile-long Steens Loop Road and both the rare and abundant wildflowers will appear! *Look for: diffuse phlox; desert parsley; Steens Mountain thistle; sagebrush buttercup; and many more.*

Just 15 minutes by car from the University of Oregon, the **West Eugene Wetlands** is a showpiece in the southern Willamette Valley for both wildflowers and collaboration. Municipal, state and federal agencies worked together to preserve this 3,000-acre parcel of biodiversity. *Look for: Showy milkweed; Willamette daisy; narrowleaf onion; Oregon geranium.*

With the snow-capped northern Cascades to the east and the surrounding waters of the Salish Sea, it's easy to get distracted from the abundant wildflowers in the **San Juan Islands National Monument**. But don't. There are prairies, sandy beaches and forests, all bursting with native flowers. *Look for: Nootka rose; harvest brodiaea; native chickweed; and so much more.*


Free Sunsets.
The Bureau of Land Management offers more than 1,000 campgrounds across the Pacific Northwest —many of which are free.
PLAN YOUR NEXT TRIP NOW AT RECREATION.GOV

An Incident at McLoughlin Canyon

Story & Photo by Greg Shine

In July 1858, just south of the Canadian border near Tonasket, Washington, a battle between American miners, and a coalition of Chelan and Okanagan Indians gave name to a canyon now administered by BLM.

While tribal accounts have been largely lost to time, this incident still characterizes, in broader terms, one of the greatest conflicts in the history of the American West: miners versus native peoples.

Earlier that summer, an armed party of aspiring gold miners traveled up the Columbia and Okanogan rivers, bound for the gold fields of today's British Columbia.

They were just 150 of the more than 8,000 fortune seekers who would eventually use this route, and a small portion of the 30,000 estimated to have traveled to the Canadian gold fields during the Fraser River rush.

Led by David McLoughlin, son of the Hudson's Bay Company's iconic chief Dr. John McLoughlin, the motley crew of rough-and-tumble men disregarded repeated warnings from the U.S. Army and tribal representatives to stay off native lands, induced instead by what newspapers termed "Fraser River Fever."

"Probably there was never a party on the Pacific Coast better qualified for Indian warfare than this," recalled one of these men, Richard G. Willoughby, noting that most of the group known as "David McLoughlin's Company" had fought in the U.S. war with Mexico.

Following the Okanogan River's east bank on the morning of July 29, 1858, the party advanced into a narrow canyon long used as a north-south shortcut by native peoples and fur traders.

In writings, party member Robert Frost remembered it as "quite narrow with high perpendicular walls, and natural terraces and benches."

The strategic advantage of the landscape was not lost on the Okanagan and Chelan tribe members. They anticipated the mining party's canyon advance and deployed in ambush.

"As quick as possible, the horses were rushed to the rear, back to the river, and all those available took what shelter they could get," wrote Frost. "After the animals were down on the flat, every available man with a gun was up to the front."

In the end, six miners and an unknown number of native people were killed, and McLoughlin's Company retreated back across the river.

Any victory was short-lived, for the mining party resumed its trek north a few days later and continued to skirmish with native peoples in the process. However, word of the firefight soon spread.

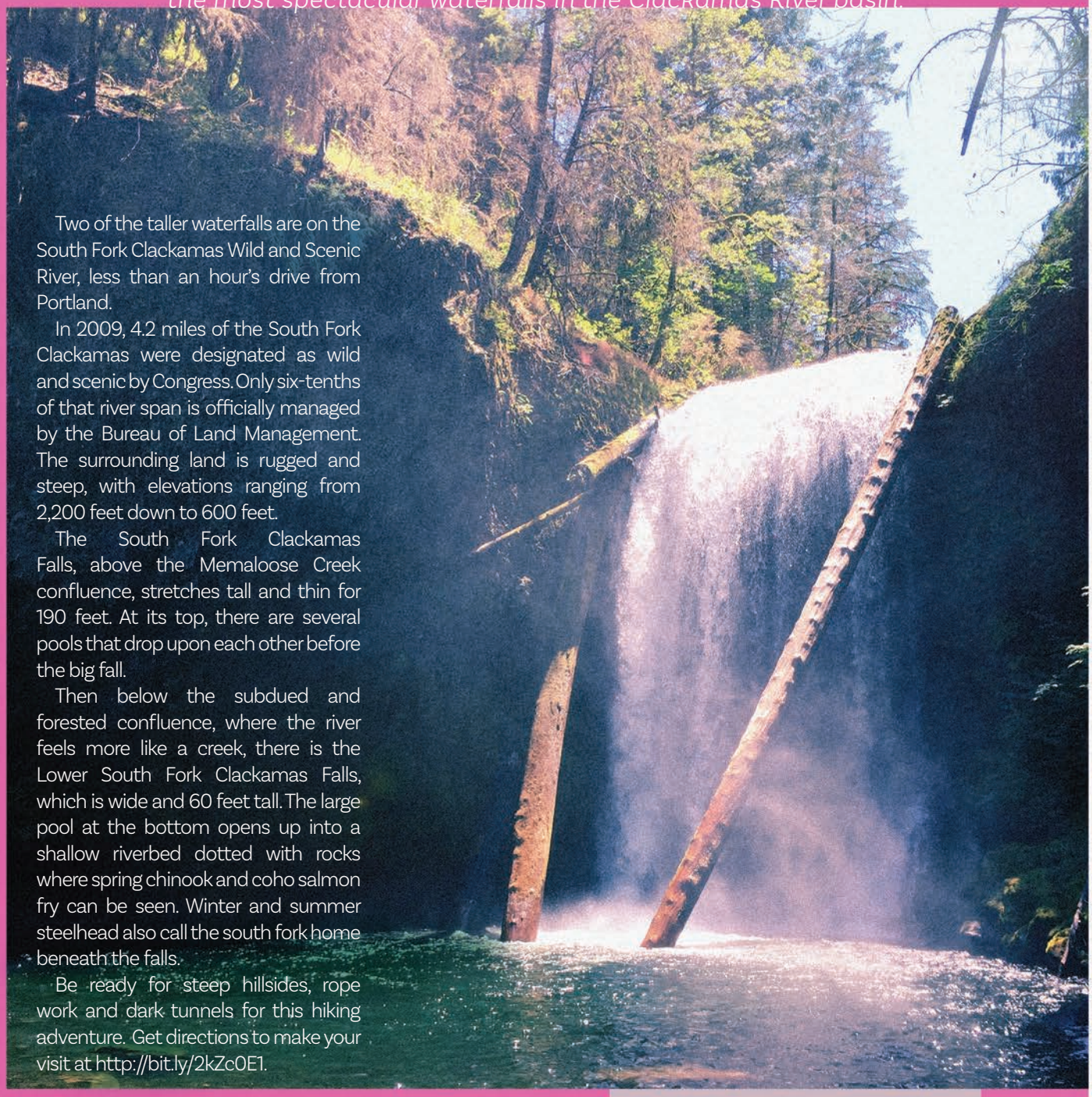
Combined with the recent U.S. Army loss at the Battle of Tohotonimme, or Pine Creek, the canyon battle fostered public fear in the Oregon and Washington territories, provoking backlash and ultimately leading to a treaty signing that relegated the area's native people to reservations. The name McLoughlin Canyon stuck, too.

As for David McLoughlin, he frequently responded to letters asking about his experiences with the Hudson's Bay Company in the Pacific Northwest, but any personal account of the battle in the canyon that today holds his name remains to be located.

Visitors today can hike into the same narrow McLoughlin Canyon, just like the miners did, or stand high above on the rocky benches, as the Chelan and Okanagan did when defending their land over 150 years ago.

CHASING WATERFALLS

A small rectangle of BLM-administered land, almost all but surrounded by the west side of the Mount Hood National Forest, is the gateway to some of the most spectacular waterfalls in the Clackamas River basin.



Two of the taller waterfalls are on the South Fork Clackamas Wild and Scenic River, less than an hour's drive from Portland.

In 2009, 4.2 miles of the South Fork Clackamas were designated as wild and scenic by Congress. Only six-tenths of that river span is officially managed by the Bureau of Land Management. The surrounding land is rugged and steep, with elevations ranging from 2,200 feet down to 600 feet.

The South Fork Clackamas Falls, above the Memaloose Creek confluence, stretches tall and thin for 190 feet. At its top, there are several pools that drop upon each other before the big fall.

Then below the subdued and forested confluence, where the river feels more like a creek, there is the Lower South Fork Clackamas Falls, which is wide and 60 feet tall. The large pool at the bottom opens up into a shallow riverbed dotted with rocks where spring chinook and coho salmon fry can be seen. Winter and summer steelhead also call the south fork home beneath the falls.

Be ready for steep hillsides, rope work and dark tunnels for this hiking adventure. Get directions to make your visit at http://bit.ly/2kZc0E1.


WE MAKE HISTORY COOL
OREGON DIDN'T BECOME THIS COOL OVERNIGHT. IT TOOK US MILLIONS OF YEARS.
VISIT ONE OF OUR INTERPRETIVE AND EDUCATIONAL CENTERS TO GET THE WHOLE STORY.
BLM.GOV/LEARN/INTERPRETIVE-CENTERS

print the past

Since the advent of 3-D printers, Oregon scientists ar
and recreating perfect replicas of ancient archaeologi
- putting history right in the palm of your hand.

story by

Oregon State University
Anthropologist Loren Davis

FOR THE FIRST AMERICANS, AND THE STUDY *OF THEM TODAY, IT ALL STARTS WITH A POINT.*

A sharp point fastened to a wooden shaft gave the hunter 13,000 years ago a weapon that could single-handedly spear a fish or work in numbers to take down a mammoth.

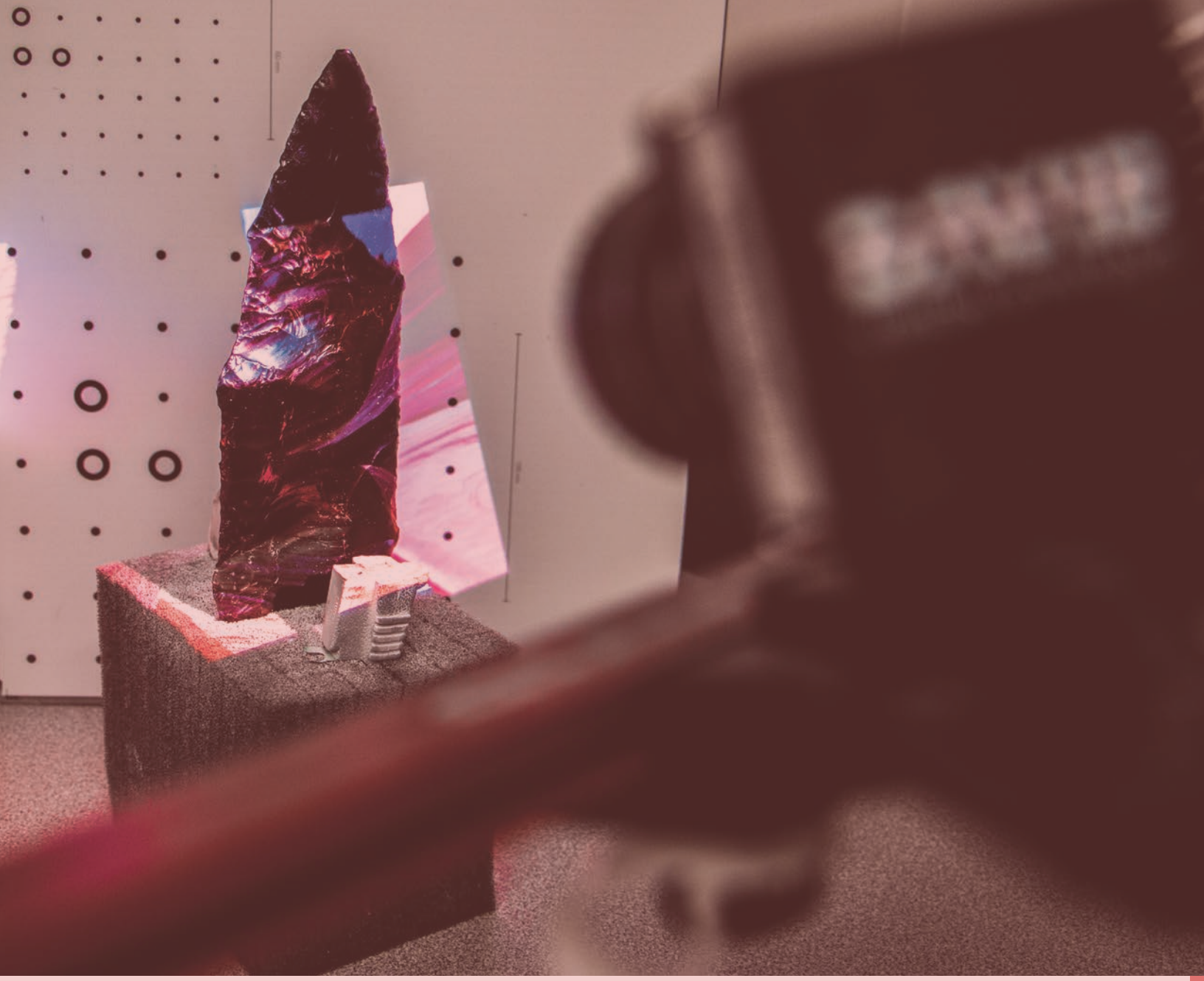
For a prehistoric human, these points were the difference between life and death. They were hunger-driven, handmade labors of love that took hours to craft using a cacophony of rock-on-rock cracks, thuds and shatters.

They have been called the first American invention, and some archaeologists now think 3-D scanning points can reveal more information about both the technology and the people.

The Pacific Slope Archaeological Laboratory at Oregon State University takes up only a few rooms on the ground floor of Waldo Hall, one of the supposedly haunted buildings on campus.

There are boxes of cultural history everywhere, and floor-to-ceiling wood cabinets with skinny pull-out drawers housing even more assets, but the really good stuff, evidence of the earliest known cultures in North America, lives in an 800-pound gun safe.

Photos by Matt Christenson/BLM



SCANNING THE PAST

The first step in 3-D printing is creating a virtual 360-degree digital scan of the artifact.

Loren Davis, anthropology professor at OSU and director of the lab, thinks 3-D scanning, printing, and publishing can circumvent the old traditions of the field, that artifacts are only to be experienced in museums and only handled by those who have a Ph.D.

"We are reimagining the idea of doing archaeology in a 21st century digital way," said Davis. "We don't do it just to make pretty pictures or print in plastic, we mostly want to capture and share it for analysis," he added.

Nearby in the L-shaped lab, one of his doctoral students is preparing to scan a point that was discovered on Bureau of Land Management public lands in southeast Oregon.

Thousands of points have been unearthed since the 1930s in North America, the first being in eastern New Mexico near a town called Clovis. That name is now known worldwide as representing the continent's first native people.

More recently, though, other peoples with distinctive points were found elsewhere, and some researchers think it means there was differing technology being made at the same time, if not pre-Clovis.

One such location is the Paisley Caves in southern Oregon, one of the many archaeologically significant sites managed by the BLM.

The earliest stem point from Paisley Caves was scanned at Davis' lab and a 3-D PDF was included in a 2012 multi-authored report in the journal Science.

Davis estimates his lab at OSU has scanned as many as 400 points, including others from BLM-managed lands in Idaho, Nevada, Oregon and Washington.

More scans would mean a bigger database for comparing points and determining what style they are.

"Ideally, we want to get as many artifacts scanned as possible," said Davis. "The BLM offers a lot of access to public data, this is just another way of doing it."

Transforming a brittle piece of volcanic glass, by hand, into a beautiful and deadly 4-inch-long spear point is a process.

In one hand would be a hard shaping rock, or maybe a thick section of antler, and in the other would be the starter stone, which in addition to igneous could be jasper, chert, or any other chippable rock that creates a hide-puncturing level of sharpness.

THE HUNTER WAS NOW MOBILE AND READY TO ROAM.

After what might be hundreds of controlled strokes and rock rotations, the rough shape of a lance or spear tip would take form. Discarded shards of stone would often result in more points, or other useful tools like scrapers and needles.

Clovis points are distinguished by their length, bifacial leaf shape and middle channels on the bottom called flutes. Eventually the repetitive flaking of the point would stop, and the hunter would use precise pressure points to create the flute on one or each side that likely helped slot the finished product into a spear-like wooden pole.

The hunter was now mobile and ready to roam.

Prior to 3-D scanning, OSU doctoral student Sean Carroll picks up a can of Tinactin, gives it the obligatory shake, and completely covers "one of the oldest technologies in North America" with antifungal spray.

The talc and alcohol from the athlete's foot remedy helps the software see even the slightest indents in the point, and it rubs right off afterwards.

"I want to scan all the Clovis I can get my hands on," said Carroll, who came to OSU because of Davis' 3-D lab and is using the medium as a big part of his dissertation.

Two random items, a power plug adapter and a ball of clay, are placed on each side of the fluted point to give the camera and light projector perspective. The objects create margins that force the structured light patterns to bend and capture more of the point's surface detail.

Even so, like the hunter rotating the shaping rock, the archaeologist has to rotate the foam square holding the three items. Each scan takes about six seconds.

Carroll and Davis estimate that the learning curve for this process was about 100 hours. One hundred hours of trial and error—and a lot of watching YouTube

EXPERIEN

Put down this magazine! Even if you can't physically hold them, you can surf the web and experience a number of virtual 3-D artifacts **right now**. ***Sketchfab.com*** is one of the biggest databases on the web for 3-D models of cultural assets. Institutions and academics alike are moving priceless treasures to the digital space for all to inspect. Two examples: via the

SCANNING THE PROF

Professor Loren Davis is a good sport about being scanned himself for this article—even if it wasn't in his standard 360 degrees.

videos—for a finished product that they think is indisputably worth it.

A completed 3-D scan of a point will have about 40,000 data points per square inch. The measurements are so precise, they can determine the difference between flake marks as thin as a piece of paper.

Davis says no archaeologist with a pair of calipers can come close to measuring the data obtained via 3-D, because simply, "there are some jobs that robots are really good at."

"If the end game is measurements, well you could spend your whole life with a pair of calipers trying to achieve what we can do in 10 minutes," said Davis.

Last year, the famous human relative nicknamed Lucy had 3-D scans of her 3.2 million year-old bones published in the journal Nature.

In 2015, archaeologists from Harvard University completed a 3-D scan of a winged and human-headed stone bull from Mesopotamia that stands 13 feet high at the Louvre Museum.

And the Smithsonian Institution is currently beta testing a website dedicated to publishing 3-D models from its massive collection, including molds of President Abraham Lincoln's face and the entire Apollo 11 command module.

All of these new-school efforts are based upon the old-school scientific principles of preservation and promotion.

Rock points, fossils, hieroglyphics—various forms of cultural assets are susceptible to environmental conditions and not guaranteed to be around forever. Three-dimensional scanning is the most accurate way to digitally preserve these items of merit.

Once accurate preservation is done, there are opportunities for promoting not just science, but specific research goals.

In the case of the Lucy bones, scientists hope that crowdsourcing the 3-D data will help get more experts to look at the fossils and prove that the tree-dwelling ape died from a fall.

When it comes to comparing one specific stemmed point to an entire hard drive of scanning data, BLM archaeologist Scott Thomas thinks the work being done at the OSU lab can move archaeology to a new level.

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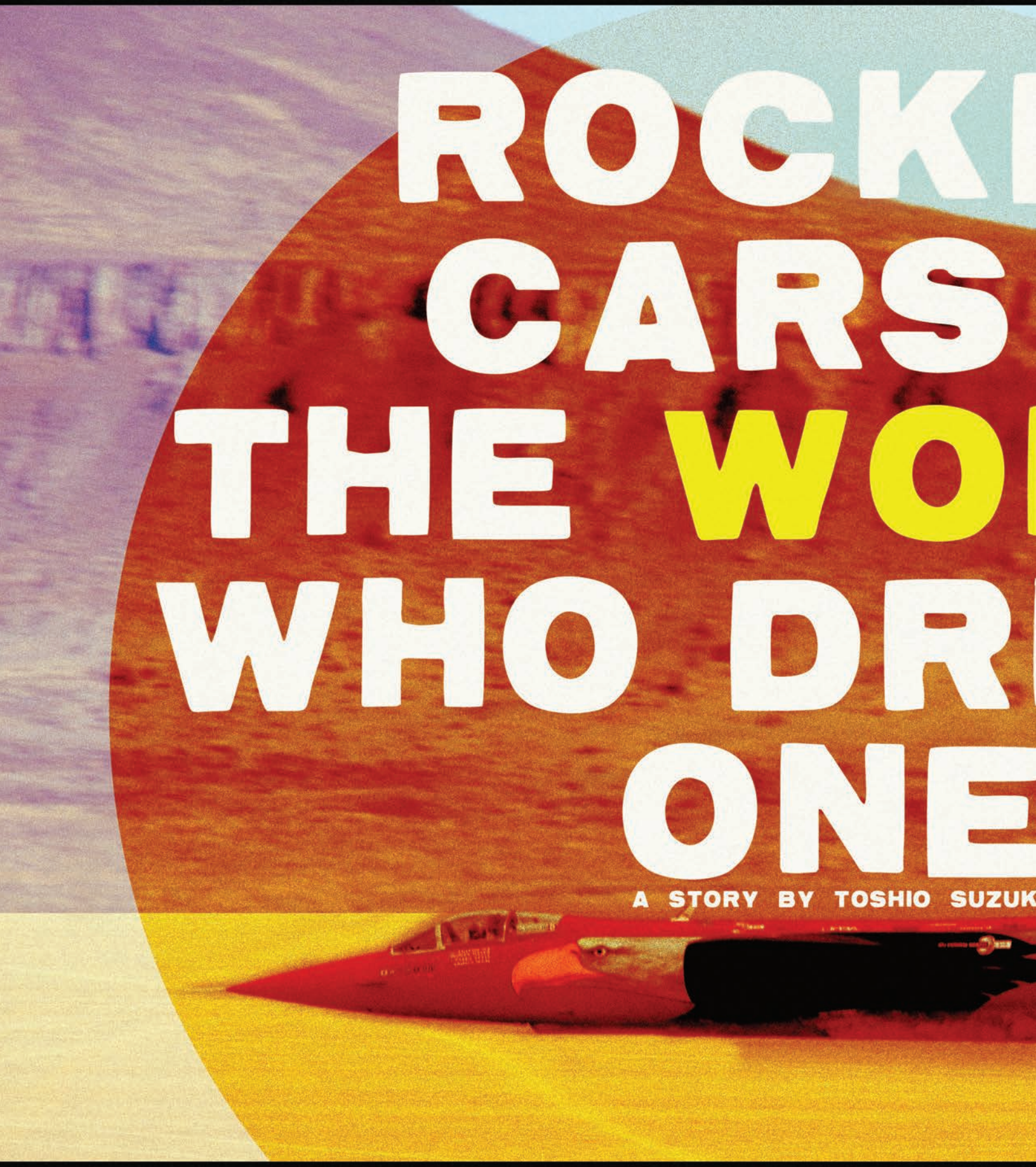
CE 3D. LIKE, RIGHT NOW.

British Museum, a 7.25-ton statue of Ramesses II is available for viewing and free download; and via archaeologist Robert Selden Jr., hundreds of 3-D models are open to the public for study, including several Clovis points from the Blackwater Draw National Historic Site in New Mexico.

The Smithsonian Institution is bringing the best of American history to a new audience via their 3-D website (***3d.si.edu***). Amelia Earhart's flight suit? Check. Native American ceremonial killer whale hat? Check. Face cast of President Abraham Lincoln? Check and check—there are two. And their biggest 3-D scan is still coming: the 184-foot-long space shuttle Discovery. Visitors to ***Africanfossils.org*** can filter 3-D model searches by hominids, animals and tools, and also by date, from zero to 25 million years ago.

The sleek website, with partners like National Geographic and the National Museums of Kenya, makes it easy to download or share 3-D scans, and each item even comes with a discovery backstory and Google map pinpointing exactly where it was found.


ROCK
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A STORY BY TOSHIO SUZUK


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"What's fastest yo ever driv

THAT'S THE QUESTION LAND SPEED RECORD HOLDER JESSI COMBS FIRST ASKS WHEN TRYING TO EXPLAIN THE SENSATION OF DRIVING NEARLY 500 MILES PER HOUR.

In casual conversation, saying she drove a former U.S. Air Force jet converted into a rocket car last summer can sometimes, unbelievably, elicit a mundane response, like "oh, that's cool," said Combs.

One explanation is that it may be too difficult for most people to comprehend what 477 mph feels like. For perspective, the fastest NASCAR and F-1 drivers top out at around 210 and 220 mph, depending on track conditions.

FEEL THE NEED FOR SPEED
Jessi Combs reviews her control panel with her team on her mission to set a world record.

Photos by Eric Wittler and Mike Cecil

"It's so fast, it's slow—it's so loud, it's quiet—it's so bumpy, it's smooth," *described Combs, a professional driver and TV personality with more than 400,000 social media followers.*

That's what it feels like be in the cockpit of the 56-foot-long North American Eagle, attempting to break speed records on the Alvord Desert in southeast Oregon.

Ed Shadle, the owner and main driver of the North American Eagle, says the acceleration sensation is steady and smooth like an airliner. Of course, that is before the full power of 19,000 pounds of thrust makes itself known to the driver.

"It's a really hard shock, you can feel it," said Shadle. "You know it when you go into full after-burner—you know you're there."

Last summer, a year of preparing for speed culminated in one week of trials on the Alvord playa, the 6-mile-long by 11-mile-long desert to the southeast of Steens Mountain.

The desert that used to be a 200-foot-deep lake, the fault block mountain, and much of the surrounding public lands are managed by the Bureau of Land Management. The Alvord is accessible all year, and is perhaps most popular for land sailing, glider flying and other outdoor pursuits that rely on remoteness.

"You're so far away from any sort of civilization," said Combs. "It's a perfect example of solitude."

Enter the North American Eagle team, with their semitrucks, U-Haul trucks, pickup trucks, and assortment of off-road vehicles and trailers that fit inside, or get pulled by, trucks.

The summer of 2016 was the team's second trip to the Alvord, the first being in 2013 when Shadle drove 515 mph. Also that year, Combs broke 440 mph and was dubbed the fastest woman on four wheels.

The alkali dirt, with its never-ending grid of erratic fracture lines, doesn't look like it's built for speed, but it is, according to Shadle, who has been driving fast since that first soap box derby race as a teen in the 1950s.

There are also hardly any bumps or rocks on the desert floor, making it "the best ground to race on," said Dory Osgood, a BLM planner who helped the team get its special permit.

Stability is a major issue for the jet car, which uses four aluminum tires to move its 14,000-pound remodeled fuselage.

"It's kind of just like putting a hair dryer on a roller skate," explained Shadle. "We're not using traction to accelerate, just thrust."

Before takeoff, large mesh mile markers that can stand up to the wind are placed to the side of the designated race course. When a single mile can be passed in 7.50 seconds, and when it can take 3 miles to stop, it is imperative the driver knows how much road is left.

In the cockpit, Combs covers her short blonde bob with a white cloth hat before strapping on the red helmet with affixed oxygen mask, just like Tom Cruise did in "Top Gun."

Fist bumps and smiles are exchanged with the ground crew, then the door is closed and it's go time.

Almost immediately, cameras inside the cockpit show Combs bouncing when the North American Eagle starts rolling. As the seconds go by, the shaking gets more violent.

As it moves, 30 sensors on the race car are recording millions of data points, like latitude and longitude, altitude, direction, humidity, temperature and even decibel level.

Even when moving at incredible speeds, both drivers said it is essential to keep their mind in front of the red rocket emblazoned with a gigantic bald eagle.

"Everything happens so fast that if you're not ahead—if your brain is not ahead of the car—something is going to go really wrong," said Combs.

On her last run on the Alvord, something did go wrong.

Wind pushed the North American Eagle off course and the steering system wouldn't let Combs correct it. She recognized the problem and applied the brakes early at mile four.

By the time the race car stopped, it was at the edge of the desert and almost completely surrounded by sagebrush.

Luckily, other than a destroyed orange traffic post and some malfunctioning systems to inspect, everything was OK and Combs owned a new personal speed record: 477.59 mph.

DIY TIP

HOW TO TURN A 1957 AIR FORCE JET INTO YOUR VERY OWN ROCKET CAR

- Start 20 years ago (Sorry)
- Purchase F-104 from scrap yard in Maine for $25,000
- Insert 17-foot-long GE turbojet engine
- Remove graffiti from fuselage
- Create a community of expert volunteers
- Attach solid aluminum wheels, $20,000 ea.
- Paint a giant bald eagle on the side

CONT. ON PAGE 25

9 out of 10 will die

White-nose syndrome kills over 90% of afflicted bats

Since 2006, nearly 7 million American bats have died due to white-nose syndrome. These bats save the argicultural industry billions every year by eating crop-killing bugs.

Bats, our only flying mammal, may continue to die from this deadly fungus unless we help. Learn more about what you can do in the battle to save bats: whitenosesyndrome.org

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THE MAGAZINE OF OUTDOOR ADVENTURE

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PRINTING THE PAST

CONT. FROM PAGE 17

"The 3-D scanning method blows anything we have done out of the water," said Thomas.

That ability to compare points can lead to insights on how these hunting tools moved over geography, and even expand theories about how native groups learned new technologies.

"It's going to be a really powerful tool someday—not too far off," said Thomas.

While long-term data analysis may not be the sexiest form of archaeology, holding a 3-D printed stem point is a pretty cool educational tool.

Davis of OSU has incorporated 3-D prints into his classes and said his students are able to make a tactile connection with artifacts that otherwise are not available.

"The students really enjoy these printed and digital models and often say that they are almost like the real thing," said Davis.

This spring, Davis is traveling to Magadan, Russia—aka Siberia—to inspect and scan some points that may be linked to Clovis peoples.

The goal in Siberia, of course, is to further expand the 3-D database. He is specifically interested in comparing them to stems from a BLM-managed site he excavated in Idaho called Cooper's Ferry.

As his student, Carroll, begins to clean up and put the scanned points into their individually labeled ziplocked bags, Davis can't help but mention how much easier international research could be with 3-D scanning.

"You can share cultural resource info with people in other countries and you don't have to come visit," he said, adding that Russia isn't the easiest country to enter.

"It's as easy as sending an email," Carroll agreed.

Davis then mentioned his 11-year-old child and how much of school curriculum these days is web-based as opposed to text-based.

"There's nothing wrong with books, I'm a huge fan of books, but it's a different way of learning," said the archaeology professor.

And with that, he made another point. ▼

ROCKET CARS

CONT. FROM PAGE 23

The main objective of the North American Eagle has always been to top the current land speed world record of 763 mph set in 1997 on the Black Rock Desert in Nevada, another area managed by the BLM.

Combs joined the team to break the women's land speed record of 512 mph, set in 1976 by stuntwoman Kitty O'Neil who was also driving on the Alvord Desert, but in a three-wheeled racer.

O'Neil, who now lives in South Dakota, has given Combs her blessing to break the record. The potential symbolism last year of breaking O'Neil's record on its 40th anniversary and on the same alkali flats was not lost on Combs, who said it would have been "like doubling up on history."

O'Neil has said in interviews, and on the phone to Combs, that if her record is broken she will get back out there and go faster. Combs says that represents the gusto that only a few drivers in the world can understand.

All the training in the world won't matter if the driver doesn't have what it takes to "strap yourself into a jet car and make it go in excess of 500 mph," said Combs.

O'Neil has done it. Combs wants to do it.

"I guess you could say we're both cut from the same crazy cloth," she said. ▼

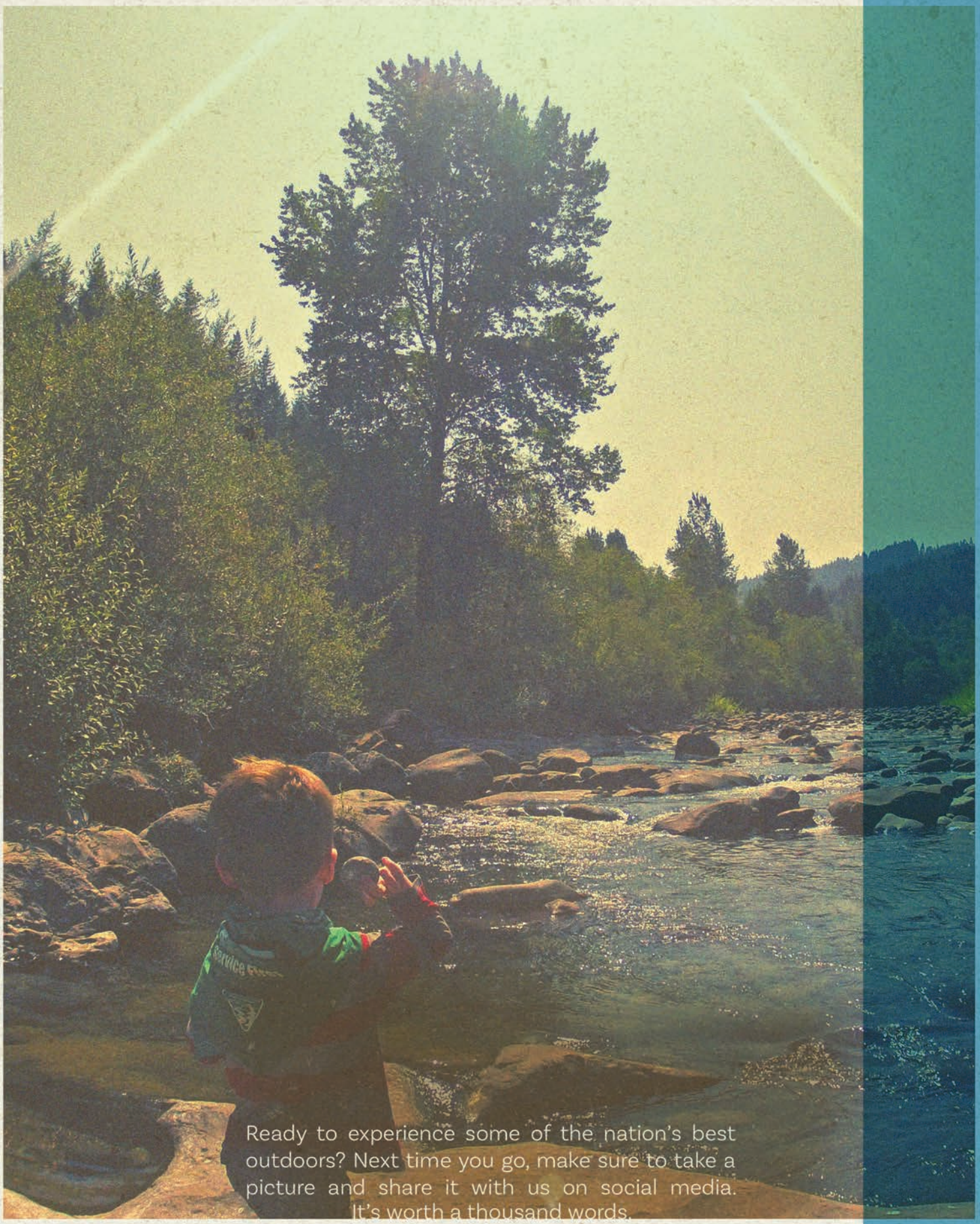
By the Numbers

Top speed of North American Eagle jet car in 2016 on the Alvord Desert:	477.59 mph
Top speed of SMI Motivator in 1976 on the same southeast Oregon desert:	512.71 mph
Current land speed world record set in 1997 by Thrust SSC on the Black Rock Desert in Nevada:	763 mph
POTENTIAL TOP SPEED OF HYPERLOOP CAPSULE BEING RESEARCHED BY TESLA OWNER ELON MUSK:	760 mph
Estimated number of known plant species in Oregon and Washington:	19,626
Number of plants listed under the Endangered Species Act in Oregon and Washington:	22
Year the threatened golden paintbrush plant was last seen in Oregon:	1938
Percentage of U.S. adults who care "not at all" about the extinction of plants and animal species:	11
Year the National Wild and Scenic Rivers System was created by Congress:	1968
Estimated number of total river miles in Oregon:	110,994
Number of Oregon river miles designated as wild and scenic by Congress:	1,916.7
Percentage of those river miles protected by the BLM:	42
Year the deadly white-nose syndrome for bats was discovered in New York:	2007
Estimated number of bats killed in North America by the fungal disease since 2006:	6.7 million
Percentage of body weight a bat consumes every night of forest insects and crop pests:	>50
ESTIMATED ANNUAL LOSSES FOR THE AGRICULTURAL INDUSTRY IF BATS IN NORTH AMERICA DISAPPEAR:	$3.7 billion
Approximate number of wild horses and burros living on public lands today:	67,000
Approximate number living in long-term corrals and pastures:	46,000
Cost per horse lifetime of long-term care:	$48,000
Number of Oregon wild horses adopted online in February:	93
Total potential U.S. taxpayer savings on those horses avoiding long-term care:	$4,464,000
Estimated number of 360-degree videos on YouTube:	386,000
Number of 360-degree videos from the BLM published on YouTube:	19
PORTION OF U.S. ADULTS WHO THINK VIDEO CONTENT WOULD BE BETTER IN 360 DEGREES:	9/10
Percentage of U.S. adults who think 360-degree video is best suited for the outdoors:	42
Projected size of the combined virtual reality and 360-video industry by 2035:	$1,000,000,000,000
Acres managed by the BLM in Oregon and Washington:	16,144,885 million
Acres inventoried for archaeological and other heritage value:	1.2 million
Estimated number of ancient Clovis spear points discovered in North America:	10,000
Number of views for the most popular Clovis point published on the 3-D forum Sketchfab:	776
Number of views for the most popular character – a video game drone – on Sketchfab:	929,900

The Fine Print

1) Microsoft Corp. 2-3) Guinness World Records 4) Tesla Motors 5) U.S. Department of Agriculture 6-7) U.S. Fish and Wildlife Service 8) Gallup 9-12) Rivers.gov 13-15) Whitenosesyndrome.org 16) "Science" 17-19) Wild Horse and Burro Program 20) Oregon Wild Horse Corral 21) WH&B Program 22-23) YouTube 24-25) Nikon Corp. 26) Citigroup Inc. 27) BLM Facts 28) YouTube.com/BLMOregon 29) "Smithsonian Magazine" 30-31) Sketchfab.com


360 Video
Put Yourself in Nature
Turn virtual reality into natural reality with your computer or phone!
The BLM is creating a series of 360-degree virtual reality videos that bring nature directly to you. See more of our growing library online at bit.ly/1RtUX55.



Ready to experience some of the nation's best outdoors? Next time you go, make sure to take a picture and share it with us on social media. It's worth a thousand words.

bit.ly/2jbloBc

One Thousand Words