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World Class. Face to Face.
Some of you will not see the Summer issue of Washington State Magazine. Or so you say. I hope I can change your minds.

I’m referring, of course, to our experimental online-only issue made possible by recent budget cuts. When I first announced a couple of issues ago that we would be dropping, temporarily, one print issue this year, many of you wrote to express not only your disappointment, but your unwillingness to read your magazine online.

I can’t blame you. In fact, you can’t imagine how much I sympathize. Nearing my 60th year, I’ve been reading and producing print magazines for a long time. I love print. I love its portability, beauty, and potential. Unfortunately, I don’t set our budget. The economy does.

And so, putting my bias aside, we’ve embarked on a digital adventure. Let’s have some fun with this digital issue; let’s do some things we can’t do in print. You’ll see more photography, more video, and some film clips from Cougar film makers. You’ll hear music by Cougars from across the musical spectrum. We’ll be introducing “My Story,” an unfettered Class Notes, if you will. Not only will you be able to let your fellow Cougs know what you’re up to without the space restrictions of the print magazine, you’ll be able to include baby photos or video of your wedding. You can sing your friends a song online if you like.

Mere bells and whistles! cries the old guard. Well, okay, maybe here and there. Regardless, we’re looking at all of these things as ways to better connect and engage all of you. But then again, yes, a good magazine is much more than mere bells and whistles.

Though the physical presence will be missing, I assure you the content will not. You’ll find the same quality of writing and reporting—along with some introspection. Our new science writer, Eric Sorensen, is hard at work exploring the “digital life,” what it means in terms of cognition, communication, and culture. We’ll also be looking at globetrotting young Cougar humanitarians and the changing role of the library.

And did I mention fun stuff? How about the ten greatest myths of WSU? Our intrepid web editor Larry Clark has already volunteered to spend a night in the attic of Bryan Hall to test the stories of Enoch Bryan’s ghostly presence. And you’ve surely caught our latest marketing tagline: “Because the world needs big ideas.” Well, we’re going to attempt to list the biggest. The best thing about online features such as these, fun or not, is that you can participate.

However, if I have still not assuaged your print longing, you can get a print version. We are working out a way for you to order a print-on-demand copy. It will cost around $12, but you get a bona fide paper copy. Come early May, visit our website for instructions.

You can also print either the PDF version or printer-friendly copies of individual articles. If portability is the issue rather than paper, you can get WSM on the Kindle digital reading device. Just go to the Kindle store and search for Washington State Magazine.

Finally, what it comes down to is not print versus online, but how well we do our job and how best to communicate. I happen to agree with many of you that there are certain things print does best, but in this budgetary meantime, we’re trying our best to do our job, and that is to connect you to WSU. And remember—we’ll be back in print for our Fall issue.

Tim Steury, Editor
Catapult Your Career

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Track to the future
What a joy to hear about the possible return of the Palouse Goose! (Winter 09/10) I have many great memories of traveling between Spokane and Pullman in the early 60’s on the single-car “train” that carried us to and from college. Most of the time we were able to sit in the passenger side of the car but on one memorable trip the seats were full and several of us got to ride with the baggage. Accompanying us were several caged roosters, bound possibly for a future cockfight. We eyed each other throughout our transit, their dark beady eyes shining through open slats in their cages.

On one occasion I recall that the train grew from the single car to an engine and several passenger cars. A winter storm had convinced many students from west of the Cascades that the rails were safer to travel than the highways. Even with the extra cars we were packed in like sardines, but anticipation of the Christmas break made it all a great adventure.

Good luck to those who wish to resurrect the rails in the Palouse! How much fun it would be to take the train to Pullman for a homecoming game or even the Apple Cup.

Joy Vanasse Goodenough ’58
My first arrival in Pullman was aboard the Northern Pacific train from Spokane after the slow overnight run from Seattle. I remember that experience as though it was last week and not sixty years ago.

More current students may not be familiar with the fact that Pullman was served by both the Northern Pacific and Union Pacific trains every day. Surely, all Cougars recognize the downtown WSU Information Center as the former Union Pacific Depot. The Northern Pacific Depot was across the street from the current Swily’s Restaurant—for many years it was the Hutchinson Photography Studio.

In 1950, the Cougar football team played Utah State in Logan, Utah. The team departed Pullman on the Union Pacific passenger train early evening for the long trip to Utah with a sendoff rally at the station. Unfortunately, the team lost the game 46-6, and there was a relatively small reception when the team arrived back at Union Station several days later. As a lifelong rail fan, the memories about passenger trains in Pullman remain.

Quite vividly, I recall that the train from Spokane had a station stop in Colfax. The schematic map in your current article bypasses the Whitman County Seat and certainly that would be important to reviving an important travel option to Pullman. Even access by Greyhound Bus isn’t what we remember and sometimes used in the bygone years as a student at WSU.

A stimulating article—much enjoyed.

Charles D. Comstock ’52
Read with interest the article on the train that ran into Pullman in the earlier years. My grandmother (Olive Durkee) rode that train from Chewelah to Pullman every week for a few years when she went back to school to obtain her pharmacy degree (1918). Her young daughters, Dorothy Durkee (Alm) and Naomi Durkee traveled back and forth with her. They both eventually attended WSC.

My grandfather, Harry Durkee, was the Great Northern Depot Agent in Chewelah at the time so they traveled on passes. That was quite a trip in those days. I think it would be a great convenience to have that going again.

Karen (Alm) Jassman ’61
The cover story on page 15 of the winter 2009/10 issue may have made a fine classroom project with sentimental appeal but the reality is that train service between Pullman and Spokane won’t happen without a huge infusion of money.

And who will regularly use train service? Northern Pacific scheduled 2 hours and 8 minutes for the 77 mile run from Pullman to Spokane in the 1960s. An automobile makes the trip in half the time (or less) and goes when you want it to, not once or twice a day.

What about start-up costs? In addition to new stations displayed in the article, getting track speeds back to the level of 1960 will require more rehabilitation than the current freight company has planned. Trains and engines may be “in place,” but where are they? Amtrak has no spare cars for new service, leaving a choice of ordering new cars or trying to find and rehabilitate a few 50-year-old antiques.

Will there be enough riders willing to pay for fuel, car and engine maintenance, employee wages, and track maintenance? Only a full blown marketing survey and a cost/benefit study will answer these questions, but let’s be clear about one thing: trains to Pullman won’t be cheap. Will they be the best use of scarce tax dollars?

Bill Lyman ’64
Was pleased to read that Bob Scarfo is proposing plans for the return of passenger rail service to Pullman. His plan to extend the service further south to Lewiston would hit a minor snag however. Rail service beyond Moscow was discontinued in the early 90s and the tracks to Lewiston have since been removed. Even if the entire roadbed is intact it would be a costly proposition to re-lay the rails. Unfortunately, going further south than Moscow would not be very efficient in terms of time. The railroad had to make a long circuitous line in order to maintain a reasonable grade. The
highway can use a steeper and much more direct grade.

I’ve personally been commuting by rail for over 13 years, so I do appreciate its advantages. An integrated transportation system is a big plus for the people and the environment.

Doug Moore ’74
Warren, MA

My mother, Agnes Morrow Sparling, class of 1928, told me of taking the train from Pullman to Seattle. There was a car on the train reserved for dancing, and they danced most of the way to Seattle.

Joyce Sparling Merriam ’57

Grover Krantz and Clyde

I picked up my paper copy of the Winter 09/10 edition of the Washington State Magazine and opened randomly to the last page, “Final Words: Grover Krantz (1931–2002) and Clyde.” I immediately recognized Dr. Krantz’s name from an honors anthropology class I took from him my first year at WSU. While I did not become an anthropologist, I think of Dr. Krantz often throughout my life. As a sophomore I was going through an "academic" crisis: not knowing what I wanted to be when I grew up. I recall filled with anthropologists. He told me he felt so comfortable surrounded by the people in attendance that he figured he finally found where he belonged. Now, as a high school teacher, I find opportunity to pass on his advice to my students, my friends, and even myself as I consider new career opportunities. Thanks for sharing such a small story about a man who continues to inspire and to teach—bones or not.

Heidi Perry ’93
Wildlife Resource Science
Olympia

Paper cuts

I read the articles entitled “Paper Cuts” with much interest. The [reasons] for the apparent demise of various newspapers throughout the Northwest were appropriate given the current situation.

I would like to add to the list the matter of the content of newspaper reporting over the past ten to twenty years and maybe longer. By definition, “reporting” is generally considered as a presentation of facts about a (particular) subject.

So much of the reporting over the last many years has included politically slanted viewpoints. These viewpoints, whether by the reporter or the particular newspaper, are not what readers of either political stripe want to read. If the bias is all one way or the other, it is no wonder that the newspapers are having trouble with dwindling circulation numbers! The most recent presidential election is a glaring case in point.

Accurate, factual, unbiased reporting and investigations of important topics is what I would welcome and would be interested in reading.

Ray Schoessler ’70
Spokane

In response to your great article “Paper Cuts,” the Wenatchee World was left out. Probably the newspaper that covers more area in Washington state, published in the Apple Capital of the World. Former owner Rufus Woods, a booster of water power, especially Grand Coulee Dam.

George Roberts ’48 Ag. Educ.
Wenatchee

The straight coprolite

Regarding “Talking Turkey,” coprolite is fossil material. Author Winner makes many references to the turkey poop as being soft, something that can be cut open, scooped out, re-liquidized, something that has a smell. I probably would have left a single mention without writing a correction, but she uses the word so many “educational” times, interchangeable with “old turkey poop” that I think the error should be corrected.

Lynn Sherwood ’75

(We asked archaeologist Bill Lipe to clarify the terminology: "The term 'coprolite' has been used in archaeology since at least the 1960s to refer to either dried or mineralized feces. It originated in palaeontology in the 1800s, but despite the '-lite' part of the term, which implies 'story,' archaeologists in the mid-20th century extended its use to cover ancient feces that had been preserved by various means...")

More nutritious?
You used two pages to report contradictory studies on the nutritional value of organic food. Why not study something important like the illness and deaths of people that eat salads made of green leafy vegetables. Health officials agree this major hazard traces to the living organisms on the surface of the vegetables that originated in the feces of warm-blooded animals. We need to know how these deadly organisms made the trip from animal to plant.

Robert J. Baker ’53
(Mr. Baker is a retired research agronomist.)

Green dorm

The article “Opening new doors to green” about the new Olympia Avenue residence hall was good. There is one correction I would like to make. The acronym LEED stands for “Leadership in Energy and Environmental Design.” The CUB has already received a LEED Silver rating. Two other buildings on the Vancouver campus, Undergraduate Classroom Building and Applied Technology Classroom, are also expecting LEED Silver.

Terry Baxter-Potter AIA, LEED® AP
Project Manager, WSU Capital Planning & Development
As we crunch through the snow in the hills above Winthrop, Steve Bondi ’02 and Ryan Anderson ’08 are eager to see evidence that their project to improve riparian habitat and provide late season water to the Methow Valley is working.

They’re building dams, but with the help of nature’s own unparalleled engineer—the beaver. The effort for a time seemed just a joke in the state capital—that of beavers building dams along rivers and streams in the Columbia River watershed to improve the hydrology of the region. “At the time, we couldn’t tell if they were laughing at us or with us,” says Anderson, watershed restoration lead for the Washington State Department of Ecology Water Quality Program.

Bondi and Anderson, both of whom have master’s degrees in environmental science, lead the hike in about a quarter mile past a split rail fence and a few slippery feet across a frozen stream. Bondi, stewardship director for the non-profit Methow Conservancy, points to an area with aspen on one side, a frozen pond and conifers running up the hillside on the other. “You see Little Cub Creek going that way,” he says, pointing east. Then, waving his arm across, “And this is a beautiful spring-fed pond complex.”

He leads us down to the shore and the edge of a 150-foot long dam behind which a large pond has formed. Another, shorter dam a few hundred feet off fronts a smaller pond. All this wasn’t built in a summer, he warns. Beavers had disappeared from the site several years ago. But this summer a new group of beavers moved in, repaired it, and built the ponds up even higher.

Beavers are active through the winter, though most of their activity takes place underwater where they have stored wood they later take into their lodge to eat. But we found signs that at least one had been out since the snow had fallen. An aspen with a 10-inch diameter trunk had about three inches already whittled away. Fresh shavings lay on the snow.

The five beavers had been nuisances in another spot in the Methow Valley. “They would have been removed, one way or another,” says Bondi. Caught in large wire traps, they were collected as a family and housed at a holding facility in Winthrop before being deposited on public land about three miles downstream from where we are today. The drop site was selected from a GIS color-coded map created by the Pacific Biodiversity Institute to consider stream courses, elevation, vegetation, and land use in finding priority areas for beavers.

“That’s what has really impressed us at our office,” says Anderson. There has been a half century of effort in the west to remove nuisance beavers and put them on new sites, but no one was really thinking about how to help the beaver safely settle in. “It was more a hydrologist grabbing a beaver and dumping him out of a pickup, sort of saying ‘Best Wishes,’” Anderson says.

Without a home, slow moving on land, quite odiferous, and with poor eyesight, these 40-pound rodents can be very vulnerable. “Beavers are a big chunky ball of fat with a fur coat on,” says Bondi. They’re quite the treat for hungry coyotes, wolves, and even bears.
This beaver project is based on the knowledge of a seasoned field biologist. The animals are moved as a family unit, some thought is put into the relocation site, and they get temporary housing and food. “The success rate is anticipated to be much higher than those old-style programs,” says Anderson. The state DOE provided money to get the Methow project started, with hopes that it could serve as an example for other watersheds.

This summer when Bondi went looking for the five beavers, he found fresh mud, aspen on the ground, and drag marks to the water at this site. He hadn’t expected the new crew to settle in here on private land. “Part of the fun whimsical mystery of all this is you can’t control it all,” he says. Fortunately this landowner is pleased to have the beavers back. Why wouldn’t she be? The creatures have restored a series of ponds and expanded the habitat for wildlife and waterfowl. Their munching on the older aspen has caused dozens of new ones to shoot through the soil.

“There are still some folk around who think the only good beaver is a dead beaver,” says Bondi. “We’re hoping to change that through outreach and education.”

Much of the Methow River drainage is made up of loose boulders and rocks called alluvium. The beaver dams hold the water back, allowing it to seep through rocks into the aquifer rather than race down the streambeds in the spring. Later, when the streams are low and the rivers warm up, the water that the beavers had redirected comes out, cooling the rivers and providing better, fresher habitat for downstream fish like bull trout, Chinook, and steelhead.

Two centuries ago the Methow Valley was rife with beavers. With their dams and ponds surrounded by green foliage and trees, it must have been a very different landscape, says Bondi. “There are some of us here local who think from the Columbia to the head of the watershed in every direction was just solid beavers.” Both Bondi and Anderson have read early descriptions of the region written by explorers and trappers, including David Thompson, the Canadian who mapped the Columbia from its source to the Pacific Ocean. But in the 1820s and 1830s, “thousands upon thousands upon thousands of beavers were pulled from the Methow, Okanogan, Wenatchee, and Entiat areas,” and their pelts were traded at Fort Okanogan, says Bondi. As much as 90 percent of the beaver population may have been removed—significantly altering the landscape and ecology.

The U.S. Forest Service also had an archived map from the Methow Valley in the 1930s which pointed out locations of beaver occupancy as well as sites where locals had remembered beaver dams dating back to the early 1900s. “There were places (high up in the hills) people couldn’t believe,” says Bondi. “These guys were everywhere around here.”
The journals and maps described a landscape that is long gone. "But we're helping to restore elements of it," Bondi says. That caught the interest of the funding agents, including the National Fish and Wildlife Foundation, Audubon of Washington, the U.S. Forest Service, and the Yakama Nation.

"This so much easier than other projects," says Bondi. The beavers are not listed as endangered, the ones that are relocated are considered nuisances by the landowners and would otherwise be eliminated, and they're being moved to public lands. No public hearings, no environmental impact assessments to fill out—it's amazing how little red tape there is, he says.

By contrast, for someone to build a little dam up in the woods to achieve the same goals, the costs of permitting and federal requirements are almost as much as the Methow Conservancy's annual budget, says Bondi. As well, a man-made solution would require constant maintenance and management. This, instead, has worked for millennia without any human support. "Something like this will get a lot larger bang for the buck," says Bondi. "And it will affect a lot more than fish."

In the past two years the project has captured and relocated more than 60 beavers. Not all have stayed put or survived, but for the most part, things seem to be working. At least seven dams were built in 2008, and at last count, another six sites were active from the 2009 releases.

"They do everything that we need them to do," says Anderson. "When you think about it from a landscape perspective, from a biological perspective, and how it all interacts with the hydrology of the region, it starts to make a ton of sense."

Laboratories for the new century

E. Kirsten Peters :: First, six months of planning. Then, over the summer, came the actual moving of laboratory equipment, chemicals, papers, and all the rest. Finally, faculty, students, and staff from four separate science buildings are now under one roof in a gorgeous new facility beside Stadium Way.

"Our unit is large, with over 150 students, faculty and staff," says John Nilson, director of the School of Molecular Biosciences. Previously, the school was fragmented, with bits of space in Fulmer Hall, Abelson (old Science), Eastlick, and Heald. "Moving from four buildings to one has already allowed unprecedented social and intellectual interactions that form the root of creative thinking and action in molecular biosciences."

The four-story Biotechnology/Life Sciences (BLS) building, across from Martin Stadium, is impressive in its abundant glass, its balconies, its grace. The $73 million building houses both the School of Molecular Biosciences and the headquarters of the Center for Reproductive Biology.

But it's the labs, not the offices, that make the BLS special. The labs run nearly the length of the building in one continuous room on each floor. The long, northern sides of the labs are dominated by tall windows, drenching the space in diffuselight. As designed, the acoustics of the lab are superb. Students, staff, and the faculty members working at their lab benches can easily think, talk to each other quietly, or turn and see others down the room, all without feeling they are in a warehouse.

Just as the building itself brought people from various parts of campus together, the design of the long labs ensures they will see each other and interact.

"It's great," says doctoral student Elizabeth Snyder, whose work centers on reproductive (germ) cells that can become sperm. "I can see other students, post docs, or office staff right in the building, and see my advisor—Dean of Sciences Mike Griswold—all with this great 'One Stop Shopping' approach. It's an open-ended discussion all around, and very productive."

The open architecture of the labs promotes interdisciplinary science—while still allowing the rigor of the individual disciplines to remain strong.

"On the national level, you often hear that there's a great deal of interdisciplinary work that needs to be done," says Nilson. "And that's true. But good interdisciplinary work is made possible—and it really only becomes excellent science—when strong disciplinary work is maintained, as well. That's what we have here in SMB."

Emphases in the School of Molecular Biosciences include infectious disease, reproductive biology, genomic biology, and chromosome abnormalities coupled with DNA repair specialties. SMB has 29 faculty members who concentrate on research and graduate education, and 12
others who concentrate on teaching, primarily at the lower-division undergraduate level. More than 50 doctoral students, as well as a number of undergraduates and post-docs, are in the labs. The SMB is one of the largest units in the College of Sciences. In the last fiscal year, its researchers spent almost $8 million from grants, making it one of the single largest federally funded units on campus.

The Center of Reproductive Biology, a collaborative effort between researchers and labs at WSU and the University of Idaho, is led by SMB Professor Terry Hassold, whose research relates to chromosomal abnormalities in humans—and why they are so common.

After years of studying the fundamental science behind the issue, Hassold and his lab are contributing to the understanding of how on the molecular level maternal germ cell abnormalities can lead to a decrease in human fertility and an increase in potential mental retardation.

“A lot of the molecular science is coming together now, and I’m hopeful that in the next five to 10 years there will be major advancements, including those that have practical applications,” Hassold said.

The BLS building is part of a new research core on campus that will ultimately bring together many of WSU’s technical labs, particularly those related to the life sciences. The neighboring Orville A. Vogel plant science research building due south on Stadium Way was the first to be built in 2005, and BLS is the second. Additional buildings dedicated to research and education in the agricultural sciences and animal health are next on the list of WSU’s priorities for this part of campus, with the ultimate leveling of Johnson Hall (built in 1961) on the agenda to make room for the final buildings.

Pat Caraher ’62 (and a founding editor of Washington State Magazine) profiles the journalism profs who shaped his career. Orville Lee ’53 recalls Babe Hollingbery’s driving habits and Buck Bailey’s mountain of hats.

Left: Undergraduate Halloran Peterson confers with Associate Dean of Sciences Mary Sanchez Lanier just steps from the laboratory. Above: William Davis of the School of Molecular Biosciences in the open laboratory. Photos Robert Hubner
WSU LAB PROBES MYSTERIOUS DECLINE IN HONEY BEE POPULATIONS

It’s not easy being a honey bee.

A mite with the last name of “destructor” routinely sucks its blood. A fungus augers into its gut, compromising its immune system and robbing it of nutrients. There’s a lot of time on the road—a California almond grove one week, a Washington apple farm the next—and the diet can be monotonous and not the most nutritious.

Then there are the living conditions. Recent work at Washington State University found hives tainted by more than five dozen different pesticides.

It’s all a bit much, say WSU researchers giving special attention to the mysterious Colony Collapse Disorder that has been hammering hives in recent years. While the disorder is having the impact of a flu epidemic, the WSU work strongly suggests it stems from several causes that, in concert, are making the tough life of a bee that much tougher.

“There are so many stresses on the bee, being raised in brood combs with high levels of pesticide residues adds just one more thing,” says Steve Sheppard, a WSU entomologist.

He quickly adds that the disorder is hard on the beekeepers, too. In each of the last three years, beekeepers across the country have lost one-fourth to one-third of their colonies, according to the Apiary Inspectors of America and the U.S. Department of Agriculture. Many of these losses are being blamed on Colony Collapse Disorder.

Jerry Tate, president of the Washington State Beekeepers Association and a Spokane honey producer, says some hobby beekeepers have had 50 to 80 percent losses. Several commercial operations, which help pollinate many of the state’s top crops, have lost as much as 50 percent a year.

Yakima’s Eric Olson, one of the largest beekeepers in the Northwest, has been hit repeatedly. He suspected more trouble was on its way last August when his western Washington hives, one of three sets he keeps in various locations, started to struggle. He supplemented the bees’ diet with syrup and pollen, and they eagerly processed what he gave them. Then, on November 1, he found their hives completely empty, an apian version of colonial Roanoke Island.
"They simply disappeared," Olson says.
Desperate for a solution, beekeepers, growers, Governor Chris Gregoire, WSU’s Agricultural Research Center and the Washington State Department of Agriculture provided funds in 2008 to establish a Honey Bee Colony Health Diagnostic Laboratory at WSU.
The laboratory now has five people working on colony health. They include Matthew Smart and Judy Wu, two master’s students who came to WSU knowing basically nothing about bees. Now they approach being a modest power couple of Northwest bee research.
"These kids are superstars," says Olson. “The entire industry is captivated by the work they’re doing.”
In a meeting last fall of the California State Beekeepers Association, beekeepers ranked and funded 13 different research proposals. Smart and Wu’s proposals were ranked second and third.
Smart has focused on *Nosema ceranae*, a relatively new and little known fungus. With repeated sampling and DNA analysis, he determined that the fungus has become more common than its more widely known cousin, *Nosema apis*. Smart says the fungus has been shown to suppress a bee’s immune system, draining its energy and reducing the number of bees returning to the hive.
“It’s possible that a lot of these bees are dying because they’re just not able to get enough nutrients in their diet,” Smart says.
But it’s not a smoking gun.
“Instead of looking for one single factor causing colonies to collapse, it’s more important now to be looking at interactions of these factors,” Smart says. His thinking is underscored by research in the peer-reviewed online journal *PLoS ONE* suggesting the colony collapse involves as many as 61 possible variables.
Among them are pesticide levels. Wu tested brood combs, the breeding quarters of the hive, and found they contained 66 different pesticides. Most were insecticides, more than three-fourths of which are toxic to bees. But the less-than-toxic pesticides concern her as well.
Regulators focus on how much chemical it takes to kill a bee and test one chemical at a time, says Wu. But they do not look at the combined effects of chemicals, which can be 10, 100, even close to 1,000 times more toxic. The chemicals also affect a bee’s nervous system, behavior and larval development.
The impact can ripple through a colony. A tainted forager can contaminate the hive with pesticides, which can reduce the number of eggs laid by the queen and impair workers’ memory and spatial orientation. If a poisoned adult dies, younger bees can be forced to serve as foragers, leaving fewer bees to tend to the brood, perform household tasks and process food for the winter.

WSU has five people working on the mysterious Colony Collapse Disorder, including (left to right) entomologist Steve Sheppard and graduate students Matthew Smart and Judy Wu. Photo Robert Hubner
In one test, Wu found that a contaminated hive delayed larval development, giving the blood-sucking mite *Varroa destructor* more time to produce offspring in the hive.

“We’re continuing to run out of safe chemical control measures for this mite, which has a very rapid life cycle. Due to the high rate of reproduction, mites can quickly develop resistance to pesticides,” says Sheppard. “The long term answer will come through genetic improvement of the bees. And in the meantime, beekeepers need to use whatever control measures they’re using as judiciously as possible.”

For now, the lab is recommending that beekeepers change their combs more regularly to reduce the pesticide load. It’s not a perfect solution, costing beekeepers money and bees a fair amount of energy. Ultimately, the researchers hope to guide solutions that will make things easier on the bees and tougher on the pests that plague them.
Gangs of Chicago

by Hope Tinney :: Fifty years ago James F. Short Jr., a young sociologist at Washington State University, was asked to lead a study of Chicago gangs.

In smoky pool halls on Roosevelt Road, the baseball fields of Douglas Park, and the windy street corners of Lawndale, Short and a team of youth workers and sociologists spent three years trying to figure out if boys with monikers like Smack Daddy, Duke, and Commando were so very different from their counterparts in wealthier parts of the city.

The resulting groundbreaking analysis opened a window into the everyday experience of the Vice Lords, the Egyptian Cobras, the Imperial Chaplains, and the Blackstone Rangers and set the stage for gang research for years to come.

Though it’s true that the gang members’ confrontations were much more likely to escalate into violence, complete with knives and chains and the occasional zip gun, it’s also true that the majority of their time was spent on non-criminal activities. More than that, the gang boys reported valuing such establishment virtues as studying hard for good grades, reading good books, and saving for a rainy day in exactly the same measure as their middle-class counterparts.

In 1965, Short and his University of Chicago colleague Fred Strodtbeck published their findings and more in the now classic Group Process and Gang Delinquency. Ten years later they followed up with two of the gangs, the Vice Lords and the Nobles, and discovered that about one in five of the boys in the first study had died. There’s no way to know how many are still alive, but that three-year project lives on and is informing new research today.

No one is more surprised by that than Short, who joined the WSU faculty in 1951, and still has an office on campus. It’s an unassuming space, so crowded with books and papers and filing cabinets that a visitor must enter and shut the door before she can find a place to sit. But it’s in a building that bears his name, Wilson-Short Hall.

“I just find it fascinating,” Short says, “here I am, more than half a century after these data were collected, (still) enjoying analyzing (them).”

On this day in December Short is looking at a computer screen showing a map of where gang members lived during the Chicago Project. The map was sent to him by Lorine Hughes ’03 PhD, a former graduate student and the person he credits with breathing new life into his old data.

“She dazzled me with her statistical legerdemain,” he laughs.

What jumps out at Short from the map is that black gang members were much more tightly clustered—suggesting their activities were more constrained—than the white gang members. Does that have something to do with why black gangs were involved in more fights than white gangs? It’s something Short and Hughes, now a sociologist at the University of Nebraska, are trying to determine.

The data might be old, but in the subsequent 50 years there hasn’t been another gang research project that approaches it. Time, money, and access are three obstacles to such studies.

It’s also true that the availability of guns has made the streets deadlier and the interest in embedding a researcher with the gangs less pronounced. Now the gangs have AK-47s or something like that, says Short. Then they used a variety of weapons including, on rare occasion, crude homemade firearms called zip guns. “I have a couple zip guns here,” says Short, digging into his desk drawer, past the paper clips and office supplies, to pull out two absurdly lightweight weapons, now unusable.

“What they do was put in a harder metal or
steel barrel so it wouldn’t explode on them,” he said. That, and put tape around the barrel.

“They wanted their workers to be successful, to get into veterinary school. About one in ten applicants would gain admission, so it was not exactly in students’ interest to help each other out. But Terry McElwain saw Palmer struggling to redo the assignment while working on a second one. He offered to lend a hand.

“There’s no reason for him to help me,” Palmer recalls thinking. “He doesn’t even know my name.”

The second attempt failed. Palmer stubbornly tried again while working on a third assignment.

“Terry again jumps in,” says Palmer. “He makes it possible for me to redo it.”

Again, Palmer failed, or so it seemed. This time, the course instructors checked their own work and realized Palmer was right all along.

It was the beginning of what Palmer now calls two “long, parallel, intersecting paths.” They would both go on to fail on their first attempt to get into veterinary school. But more than 30 years later, they would bring to WSU the largest private grant in its history. They would also receive one of the highest honors in biomedical research and human health care, election to the National Academy of Science’s Institute of Medicine.

Along the way, they have enjoyed a friendship that ran through veterinary school, where they were lab partners, then doctoral work at WSU, where Palmer lived in McElwain’s base-
ment. They both had faculty positions at the University of Florida, then moved back to the Palouse to spend the past two decades as WSU faculty.

One might speculate that, without their friendship, WSU may not have received the Gates Foundation’s $25 million challenge grant for global health. But it’s just as interesting to see how gracefully they both razz and respect each other as they chat in McElwain’s office, just three doors down from Palmer’s.

“He actually owes his whole career to me,” teases McElwain.

“Actually,” he says, minutes later, “I followed him his entire career. I’ve been in his footsteps.” Which is true, if you stick to just time and geography.

They both had WSU residencies in veterinary pathology and what McElwain calls “fundamental experiences that brought us together with some common vision,” including time in Africa with their Ph.D. advisor, Travis McGuire. But they also had separate paths for much of their careers. Palmer has focused on researching infectious diseases and how they persist in animals around the world. McElwain has focused more on disease surveillance and detection, plus administrative work since 1993 as the head of the Washington Animal Disease Diagnostic Laboratory. He was instrumental in developing a coordinated network of animal disease diagnostic laboratories watching for outbreaks of diseases like monkeypox, mad cow, and the recent H1N1 virus.

“We’ve been able to work side by side at a fairly high level without ever feeling competition between the two of us,” says Palmer. “The fact that we had some different interests and were kind of reaching to the top of a certain area, and they were different areas, made that possible.”

At the same time, McElwain was best man at Palmer’s wedding. Palmer watched McElwain’s children grow up. More recently, their work has intersected to where they have appeared as line items in each other’s budgets. They don’t finish each other’s sentences, but they do trust one another to make decisions in the other’s absence.

“Communication obviously after this many years is very efficient,” says McElwain. “It doesn’t take many words for Guy to know what I’m trying to convey and vice versa.”

Their ease, trust, and respect eventually helped them start to think of their work in broader terms. Five years ago, the two pondered a question: How can we take all of our experience and do something to address issues in global health equity among people worldwide? While they concentrated over the years on animal health, they’ve been intensely aware that two-thirds of human diseases start in animals. They’ve also seen the precariousness of smallholder farmers who rely heavily on a few animals for their livelihoods.

“That’s when we started talking about what became the School for Global Animal Health,” says Palmer. “That really came out of conversations that Terry and I had together... The school came out of a shared vision, a vision that many other people helped shape early in our careers.”

Election to the National Academies is an honor, says McElwain, but he says it is chiefly a tribute to WSU and its role in their careers. “It was all done here,” he says, “from the training onward.”

But the conversation, resolve, and shared vision that has led to the School for Global Animal Health, that’s the hallmark of friendship.

“The thing that’s been really great for me, and I know Guy feels the same way, is that at this stage in our career we are able to look at the broader impact of what we do, and we’re doing it together more than we’ve actually worked together for a number of years,” says McElwain.

“And that’s been a fun, fun thing to do.”

Skagit Valley studies

by Hannelore Sudermann :

One student has been wading into Padilla Bay to look at eelgrass, another hikes into spinach fields to see if lime can protect the plant from fusarium wilt, and a third is studying the dynamics of conflict among farmers, landowners, environmentalists, and the local Indian tribe.

Jessica Gigot, a WSU graduate student in Plant Pathology, while busy with her research with raspberry plants, was wondering how her work fit in with work done by the students around her—from WSU as well as other graduate programs in Washington. They were in different fields and sometimes from different schools, but they were all looking at Skagit Valley.

That’s when she hit upon the idea of getting them together for a one-day symposium last November to share their work. “I wanted to provide students from different disciplines the opportunity to interact,” she says. She also hit on the idea of inviting farmers and other members of the community, “to allow students to engage community members in conversation.”

Gigot looked beyond students to round out the day, inviting eco-toxicologist John Stark from WSU Puyallup, and David Dicks, the head of the Puget Sound Partnership, to speak on their research and efforts, as well. Stark talked about the pollutants—from both agriculture and urban communities—that were pouring through the region’s waterways into the sound. Dicks discussed how the Puget Sound region is a growing priority for the federal government and that efforts to protect and restore areas around the sound may be more successful here than on waterways like Chesapeake Bay and the Great Lakes.

“It was interesting to hear all the issues about water management and overall habitat concerns for the area,” says Gigot. And invalu-able to hear how the students’ work might fit in with other projects.

Tyler Breum, one of Gigot’s classmates, grew up on a farm in Skagit Valley. He used the day to talk about his research as well as his efforts growing five acres of organic potatoes on his family’s land. A conference like this is a good step forward, he says. “Hopefully we can come up with some new ideas on how to make agriculture in this valley more sustainable.”

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By Hannelore Sudermann
On a frosty Saturday morning in early December, Martin Stadium rings with the thud of tackles and calls for a pass. Football season ended two weeks before, so the voices on the field aren’t quarterbacks and safeties. They are the voices of the fly-half and fourteen other players on the WSU women’s rugby team facing off against Eastern Washington University.

In dark crimson jerseys with black letters and striped crimson-and-gray socks, the WSU women quickly take command on the snow-dusted field with strong team play and swift runners. Players pass the ball—roughly the same shape but larger than a football—run or kick as they advance down the field … until a tackle sends them sprawling, the ball gets dropped, and the game continues without pause. It slows down only after balls go out of bounds or for “scrums,” when players link together and work to free the ball for their team following a penalty.

The team plays well in the cold, skillfully executing passes, kicks, runs, and set plays like scrums, a familiar scene for the squad after their astoundingly successful season last winter. The WSU women’s rugby team took third in the nation in the 2008-09 season, after going undefeated in league play and cleaning up in the West Coast Regionals.

However, rugby is unfamiliar to many Americans. That was true for Michele Roseburg, the team president and a senior from Moses Lake. “I’d heard of rugby and thought it was just some funny sport they played in Europe.”

Most of the ruggers, like Roseburg, hadn’t played or even watched rugby before joining the team, making their rise to Division II national competition more impressive. “The whole time we were considered a dark horse,” says coach Leah Hammon, a senior from Longview. “We were the only west coast team, and we learned a lot just from watching high-caliber, Division I east coast teams.”

Team member Megan Bonny notes how many on the team were awed even at the regional championships. “We get to the field at Stanford and see how beautiful it is. Everyone is freaking out because there’s grass on the field—we’re not playing in mud or snow.”

by Larry Clark

WSM Spring 2010
sports

Bonny plays inside center, a fast-paced back position, and her twin sister Alexis plays fly-half, another speedy running position. The sophomore from Yakima says, “Alexis and I had been to state competitions in other high school sports, but going to nationals took the level of play up a notch.”

Her teammate Erika Lund had played some rugby in high school, but it took some adjustment. “No matter how similar rugby is to other sports, it takes getting used to. After playing soccer all my life, once I got on the field for rugby I’d wonder ‘what is going on right now?’” says the junior from Tumwater.

I’ll confess I’ve never played rugby, and have watched it far less than football or even soccer.

Yet elements of the sport are familiar. Like its descendent American football, rugby is a sport of territory. Like soccer, rugby has relentless movement.

Here are the basics: Two teams of fifteen players each try to maintain or gain possession of the ball, moving it up the field with runs or kicks, and lateral or backward passes to keep the ball from falling into opposition hands. Teams get points from putting (or grabbing) the ball over the goal line and kicking goals. Defense can tackle, knock the ball loose, and impede the offense’s progress.

Here’s where it gets tricky. After a rule infraction—such as a forward pass—a scrum occurs. Eight players from both teams link arms and collectively push against the other team while the ball is rolled between them. Similarly, “rucks” and “mauls” involve team members literally joining together to gain possession of the ball. Play continues even after tackles.

“It’s really intense because it doesn’t stop,” says Roseburg. “There are no timeouts or breaks except half-time. Since the ball’s the line of play, you’re always focused on where it is, and where you need to be to support team members and advance the ball.”

The fast tempo and wide open play attract students looking for an athletic outlet, but a real draw for many is tackling. “Full-on tackling’s great. It gives you a rush,” says Alexis Bonny. “I think when people get that rush they want more, and that’s how they fall in love with the game.”

Most of all rugby’s a sport of organization within chaos, and team strength over individual performance. “There’s nothing quite like rugby. You can have fantastic players, but you need a solid team to be successful. In rugby, you can’t just rely on one or two star athletes to win,” says Hammon.

She sees growing popularity for the sport, especially on the east coast. We may see even more excitement generated at football and basketball events,” Schneidmiller added. “I also remember the excitement generated at football and basketball games when he would randomly elect to deliver his Cougar scream.

Well before Schneidmiller’s time as a student, a student-athlete, though small in stature, was in the process of leaving a giant legacy at the school. “The fightingest little football player ever to don a Cougar uniform,” was how the 1928 Chinook Yearbook described Herbert “Butch” Meeker, who quarterbacked the Washington State College football team from 1925 to 1927.

At 5-foot-5 and 150 pounds, Meeker’s slight frame belied how he played. A 1955 story looking back at a 1925 game between WSC and USC recounts how Meeker led the Cougars to a 17-12 upset over the Trojans, stating that “the littlest guy on the field almost single-handedly toppled the Trojans.”

“With that victory,” the article said, “the name of Butch Meeker became a fable in Pullman, Wash., athletic lore.”

At the time of the USC game, the school’s mascot was a stuffed cougar. But Washington Governor Roland Hartley presented WSC with a live cougar mascot two years later, at halftime of the Homecoming game versus Idaho, November 11, 1927.

Governor Hartley suggested that the mascot be named after Meeker, the football hero of the day. And the tradition of Butch was born.

Butch I served as the mascot for 11 years before dying January 19, 1938. The student body president and football team captain, Chris Rumburg, went looking for a new cougar to replace Butch.

“We’ll get a cougar if we have to organize an expedition ourselves,” he said.

In this effort, Rumburg organized a sale of tags (at 10 cents each), bearing the likeness of the original Butch, to help fund a cage, which would ultimately be called Butch’s Den, for the new mascot to live in. The school found its replacements when Governor Clarence Martin secured two cougar kittens.

The tradition of Butch continued on through the decades, with the Washington governor...
more rugby. Last October, rugby fans learned that the game had been reinstated for the 2014 Olympics, after a 90-year hiatus.

For the WSU women ruggers, the chance to compete comes with other rewards and challenges. The team members grow close, as Roseburg points out, “We’re such a tight-knit group. You get to know each other from practice three nights a week and games on Saturdays, and build strong friendships.”

As a club sport—like men’s rugby, ski team, and 23 other sports—women’s rugby funding comes primarily from fundraising, with some matching funds from student fees. The team sells concessions at WSU women’s basketball games, and has a “Rugger for hire” service where two or more ruggers do odd jobs for $10 an hour, from painting and pulling weeds to cleaning gutters.

The team keeps a strong connection with alumni, says Hammon. “Once a rugger, always a rugger. We have the annual game against alumni that’s kind of ridiculous, and a lot of fun. We all wear prom dresses. Trains litter the field.” A barbecue and alum stories follow.

Back at Martin Stadium, WSU’s ruggers win the game against Eastern to the applause of diehard fans in the freezing aluminum stands. The players thank “the sir,” as the referee is called, and Hammon reflects on the team’s future.

“I think we certainly have a chance to go back to nationals. Our biggest disadvantage is we’re a west coast team and we don’t get the competition we need to prepare for that level of rugby,” she says. “We’re definitely under-exposed. I don’t think a lot of people even know WSU has a women’s rugby team and certainly not that we’re a national-caliber team.”

In addition to preserving the tradition of Butch, Schneidmiller wished to honor his father, Manuel, a 1941 WSC graduate, and his mother Gladys.

His wishes are depicted in the dedication at the statue’s base:

THE TRADITION OF A LIVE COUGAR MASCOT AT WASHINGTON STATE UNIVERSITY ENCOMPASSED OVER A HALF CENTURY, FROM 1927 TO 1978, ENDING WITH THE PASSING OF BUTCH VI. ON THIS SITE STOOD BUTCH’S DEN, THE HOME OF THE LIVE COUGAR MASCOT. IN RECOGNITION OF THIS TRADITION, BUTCH RETURNS HOME WITH COUGAR PRIDE, DEDICATED IN HONOR OF MANUEL (WSC ‘41) AND GLADYS SCHNEIDMILLER BY THEIR SON GARY SCHNEIDMILLER (WSU ’71) ON NOVEMBER 22, 2008.

“My father was a Cougar to the core, my mom still attends Cougar games, and most of our family are Cougs,” said Schneidmiller, who emphasizes that he considers the statue to be a “working Butch,” in that a portion of proceeds from the sales of statue replicas are directed to WSU Athletics.

“I am hopeful that Cougars everywhere rekindle and reconnect with that special feeling when they visit Butch at his old home on Stadium Way,” Schneidmiller explains. “All of the people involved in this project have played a role in reviving a very old tradition started at WSC, and now extends to WSU today and into the future. Bringing Butch home was exactly the right thing to do.”

Watch a video explaining rugby basics and learn how to speak like a rugger at wsm.wsu.edu.
by Tim Steury

A Washington apple? you say. You might respond, correctly, that Washington and apples are almost synonymous. After all, we produce more than half of the nation’s eating apples. Visit a market in Mexico, Thailand, Houston, or Saudi Arabia, and there, you will find Washington apples.

Still prominent among the selection is the iconic Red Delicious. Up through the 1980s, it represented more than three-quarters of Washington production. But now, other varieties, the sweet Gala, the tart Granny Smith, the intensely sweet-tart Pink Lady, are steadily usurping the Red’s status.

But neither in the era of the Red’s dominance nor in this new age of increasing pomological diversity has Washington had an apple it could truly call its own. The Granny Smith hails from Australia, the Honeycrisp from Minnesota, the Fuji from Japan, the Gala from New Zealand. One might argue that Washington actually made the Red Delicious its own, sculpting through selection its distinct shape to perfection, pushing its color deeper and deeper along the spectrum. And ignoring its taste.

Although a good strain of Red, well-grown and -ripened, can remind even a discerning eater of why it was named “Delicious,” it is not in truth a Washington apple. It was discovered by Jesse Hiatt as a chance sport in his orchard in Iowa. He named it “Hawkeye.” Stark Brothers Nursery bought the variety from him and named it “Delicious.”

Regardless of origin, the adopted apple grew so well in Washington and was so esteemed that Washington growers for decades saw no need for anything more specific to our image. We’d made the Red ours, and it was good.

But tastes change. And an obsession with color undermined its taste, a genetic tradeoff that left much of the variety tasteless, mealy, and dull. Although the Red is not yet dead, as the late visionary grower Grady Auvil declared some time ago, it is in decline. And it has certainly lost the appeal that built the industry.

But now, in the nick of time, Washington has an apple truly its own, the WA 2. By the time you are able to buy this apple—and I do apologize for teasing you with something you cannot yet acquire—I assure you it will have a livelier name.

That WA 2 designation, says Bruce Barritt, the man responsible for its breeding, is purely descriptive. When selections in his breeding program moved from the seedling stage to the next stage, each contestant got a number. The selections now number into the mid-70s. WA 2 was, simply, the second one to get a designation.

Barritt set out to do two things with his breeding. The first was to produce a variety adapted to Washington’s seasons. Not every apple likes the intense sunshine and August heat of central Washington. But others love it.

Secondly, says Barritt, he wanted an apple that would be available to Washington growers. Some new varieties are being restricted, with the intent of maintaining a strong market for rationed fruit.

Further, says Barritt, “We have a motto for the program. The motto was ‘put consumers first.’ My feeling has always been, unless the consumer wants something, there’s no point in producing it. The goal was to have something the consumer really wants to purchase. And that meant fruit quality.”

Barritt started the breeding program that produced the WA 2 in 1994, once the apple industry, through the Washington Tree Fruit Research Commission, finally decided we needed an apple of our own. Fifteen years, by the way, is pretty fast for the development of a new apple variety. Apple breeding is not an occupation for the impatient.

The process is complex from the very beginning, the sowing of apple seeds. Apples do not breed true. Apple seeds are like siblings. They may retain some traits of their parents, such as size, but they are individuals. Plant five seeds from a given apple, and you may well end up with five completely different progeny. The only way to ensure the replication of a parent is through cloning, either by grafting or tissue culture.

Thus, the next step of breeding a new variety is to select the most promising seedlings. Once a good seedling is chosen, it will be grafted onto rootstock to further test that selection’s potential. Those selections are tested for strengths and faults and a final selection made. And suddenly, fifteen years have gone by.
Until now. There is indeed something new under the sun, at least when it comes to breeding apples, and it is pretty exciting.

Kate Evans, the successor to the recently retired Barritt, had a plum job as an apple breeder at the East Malling research station in England. But a new era in apple breeding, with new tools at her disposal and an impressive team composed of molecular biologist Amit Dhingra, bioinformatician Dorrie Main, geneticist Cameron Peace, and others was enough to inspire her pack up her four children and entomologist husband and move to Wenatchee. Following the lead of the Human Genome Project, these WSU scientists are collaborating to sequence the apple genome and approach apple breeding in a whole new way.

At the core of the modern apple is a curious paradox. Although the genetic diversity of the apple is enormous—25 species and more than 7,000 reported cultivars—the actual genetic diversity of commercial varieties is quite limited. Modern commercially available varieties mostly derive from just a few parents: primarily Red Delicious, Golden Delicious, Jonathan, McIntosh, and Cox's Orange Pippin. These varieties are well-known, their genetic strengths and weaknesses extensively documented. So rather than venture into unmapped genetic territory with untested germplasm, breeders routinely, and understandably, turn to the tried and true. Offspring of these apples obviously have produced some fine eating. But relying on them for exploring the apple's potential is like relying on a small group of composers for our enjoyment of music. A musical diet limited to Haydn, Elgar, and Lennon might be great for a while. But think of all the musical pleasure you'd be missing.

The apple equivalent of all musical permutations exists in the mountains of Kazakstan, where many scientists believe the apple originated. The Kazak apples are endlessly diverse, many of them tasty as well as disease resistant. Much of the Kazak germplasm has been collected and maintained by fruit explorers with the National Germplasm system's regional unit at Cornell, which is responsible for maintaining the *Malus* (apple) collection. (The regional station at WSU is responsible for beans, garlic, and many other crop plants.) The pomological variations within this collection are mind-bogglingly rich. But until now, without the proper genomic tools and map, they were really of little practical value—tantalizing, but out of reach.

The sequencing of the apple genome is the effort of a consortium of an Italian group, WSU, and others. Amidst the effort, Dhingra’s job is to develop methods to de-convolute complexity within the genome, such as ploidy, an abnormal number of chromosomes. Dhingra’s lab is actually sequencing a separate apple genome, a double haploid Golden Delicious. The genome mapped in collaboration with the Italian group was a more complicated heterozygous Golden Delicious.

Using information already gleaned from the mapping, Dhingra’s group is looking for a means for alleviating a calcium-deficient related syndrome called bitterpit. Honeycrisp, a variety developed through the breeding program at the University of Minnesota is a high-quality, highly desired apple. But particularly in the Pacific Northwest it is very susceptible to bitterpit. Dhingra is developing a method to negate that susceptibility without otherwise altering the variety character of the Honeycrisp.

But disease and disorder are, apparently, genomically simple compared to traits such as texture and taste. Things should get interesting soon.

Meanwhile we have our first apple, one produced by conventional means. And it is delicious. Not Red Delicious, actually delicious. I was part of a tasting panel this fall that sampled the WA 2, along with further “elite” selections that will be released shortly after the WA 2.

It’s a very attractive apple, red, shifting to pink, with distinctive lenticels, or spots. It’s a nice blend of sweet and enough acidity to give it character. It’s very juicy, with a nice mouth-feel, crisp and firm with a high apple flavor.

This spring 5,000 trees will be distributed to grower evaluators, so the apples themselves are still a ways off. But they’re worth the anticipation.
Of TIME and WILDNESS

in the North Cascades

by Tim Steury :: photos by Zach Mazur
Stunningly beautiful and isolated by some of the most rugged terrain in the country, Cascade Pass is framed by a dramatic natural history. Archaeological exploration has revealed a rich human history as well.
...we’re beginning to get the picture, these people were going up to the mountains to be in the mountains.
THE ARCHAEOLOGICAL EXCAVATION itself is hardly remarkable. It’s about a meter long by a half-meter wide and a meter deep. Nick Foit, a geologist, comments that it must have been pretty cramped to work in. Photographer Zach Mazur works his way around the hole, careful to step where archaeologist Bob Mierendorf tells him, shooting its cubic ordinariness from different angles.

“See this orange golf tee,” says Mierendorf. He’d pushed it into the floor of the pit to mark where he’d previously removed a tiny piece of charcoal. Carbon dating indicated the charcoal was the remnant of a cooking fire from 9,600 years ago.

With occupation dates in the Americas continually being pushed back further and further, as much as 30,000 years and beyond, a 9,600-year-old cooking hearth is not that remarkable in itself. But we are standing at Cascade Pass, 5,400 feet high, deep in some of the most rugged country in the United States.

Cascade Pass easily makes the short list of the most beautiful places in the world. The pass is a saddle between drainages. The east side is the watershed of the Stehekin and Chelan Rivers, which flow to the Columbia. The west side is drained by the Cascade River, a tributary of the Skagit. Peaks around us range between 8,200 and 9,200 feet. Forbidden Peak. Mount Formidable. Johannesburg Mountain.

The landscape is indeed spectacular, even without the glaciers. Across the road from the trailhead, at 3,000 feet, there’s a glacier. Nearly 80 percent of the glacier area in the conterminous United States is in Washington, and most of those glaciers are in the North Cascades, many of them visible from Cascade Pass. Seven hundred and fifty-six glaciers have been identified in the North Cascades, 318 of them within the Park.

Cascade Pass is one of the most popular hikes in North Cascades National Park, providing the quickest access to the high country of any hike in the Park. But today, we are alone. A bridge on the only road in was damaged by a flood last winter and is closed for repair. Earlier, Mierendorf had parked a Park Service van on this side of the bridge, and we’d walked across the damaged bridge from one vehicle to the other. Without a vehicle, it’s a 14-mile hike from the bridge to the trailhead. But when the bridge is open, the trail to Cascade Pass is heavily traveled, with obvious reason.

Not so obvious, however, is what people were doing up here 9,600 years ago.

Even though we’re still sweating from the four-mile hike to the pass, the September air is cooling rapidly. Black clouds mass ominously to the west, and the wind over the saddle is increasing. We are starting to accept that we are about to experience that overwhelming expression of Nature sometimes called the Sublime. A late summer storm in the North Cascades. “The late great Mierendorf Expedition,” jokes Foit.

MIERENDORF HAS SPENT the last couple of decades trying to convince the archaeological establishment that pre-contact Northwest Indians did not confine themselves to the lowlands, but lived in the North Cascades and frequented the high country. When Mierendorf first started working at the park, Cascade Pass was one of 17 archaeological sites identified within it. Since then, he has identified nearly 300 more. Forty-five of those sites are located between 4,000 and 7,000 feet.

Obviously, population densities in the mountains were nowhere near what they were along the more hospitable coastal lowlands. Mierendorf argues simply that lower density does not mean absence. An earlier assumption by archaeologists was that Indians actually avoided the mountains, and any contact between coastal and interior tribes was accomplished by traveling along the Columbia Gorge. Mountains were a barrier, not a destination. The idea that prehistoric people crossed the Cascades on foot was simply incomprehensible.

Such an assumption is certainly understandable. The North Cascades is tough country. Even though only two volcanic peaks are higher than 10,000 feet, the deep glacier-carved valleys create dramatic local relief, often as much as 6,000 feet between valley floor and peak.

Alexander Ross, a fur trader with the North West Company, made the first non-Indian crossing of the North Cascades in 1814, from east to west, guided by an Indian. “A more difficult route to travel never fell to man’s lot,” wrote Ross.

So why was the question of the Indians’ presence in the mountains such a mystery? Why didn’t archaeologists just ask the Indians?

“What I found,” says Mierendorf, “is they did ask the Indians. But it was very scattered and piecemeal. Anthropologists who did ask the tribes were always focused on something else.”

For example, he says, the best ethnographic study of the North Cascades is June Collins’s Valley of the Spirits (University of Washington Press, 1974), conducted in the mid-20th century. The focus of the book is the spiritual life of the traditional Upper Skagit people. Collins did not venture into the backcountry. An ethnographer gathers what information she can about a culture from the stories and memories of her subjects, and at the time there were no longer any Indians living in the high country. But, says Mierendorf, she did record some information that indicates the upper Skagit people traditionally were better hunters and wore more skin clothing than their lowland, saltwater relatives. When they had excess meat, they would trade with saltwater relatives for things like dried clams.

A more basic reason for the lack of anthropological information on mountain Indians is that historically, anthropologists have tended to focus on larger, more obvious, populations.

“If you just drew a line around the Northwest Coast culture area, as it has been studied historically,” says Mierendorf, “well, it would extend a thousand miles long from southeast Alaska all the way to central California, and it would be a hundred yards wide.”

AT THE BOTTOM of the excavation are flat stones next to the remains of a fire, seats for the people of 9,600 years ago. The landscape they gazed over was even more austere than the modern subalpine we’re amidst. Keep in mind that the land was still recovering from the last ice age.

Lacking the current layer of organic matter and ash of nine separate volcanic eruptions over the past 9,600 years, the landscape surrounding us was even more rocky, says Mierendorf. Since the soils had less organic matter, they’d have been lighter in color. More rock surface would have been exposed, and the rocks themselves, lacking the eons of lichen buildup, would have been lighter colored. The landscape surrounding us would have been very bright, he says.

It would seem that with such a severe landscape, there would have been little food to draw the early people up here.
On the contrary, there would have been, says Mierendorf. Although the landscape was more barren, the plant life would have been more clumped together in discrete islands. Those clumps each would have had their ecotones, or transitional zones, around them, supporting a diverse mix of plants.

There would have been edible bulbs, glacier lilies, spring beauties. And berries. Even now, as then, in late summer, the huckleberries are still thick.

Marmots were surely here at the time, barking at our predecessors the same as their descendants bark at us. Marmots were a great source of fat. “I mean, what would be better to eat than a big fat slow vegetarian?” says Mierendorf.

At one point, Mierendorf pulls a clump of hair off a bush. It is thick and soft. Indians have long hunted goats for their meat and their warm hair. Even if food had not been plentiful here 9,600 years ago, why else would people have been up here? Trade is one reason.

“Every archaeologist in the state would say they’re not surprised we found this site at Cascade Pass. Everyone knew it was a trade route.”

The only problem is Mierendorf has found no trade goods. Trade goods would have included obsidian, for tool-making, and shells.

“I’ve compiled long lists of trade items,” he says. “We haven’t got any of that.

“I’m not saying they weren’t trading all that time. But we can’t find trade items.”

One thing Mierendorf is certain the people were doing at Cascade Pass was making tools. Throughout the layers of the test pits are not only “debitage,” the remains of tool making, but partially-made tools, dead-ends, mistakes. “They were bringing tools with them from east and west of here and making tools right here.”

Between 8,600 and 4,000 years BP (before present), the materials used at the site were quartz crystal, jasper, and Hozomeen chert. These materials are predominantly local, says Mierendorf, indicating that use of the pass at the time was for access to the adjacent terrain. “The quartz crystal comes from right here, a quarry right over there,” says Mierendorf, pointing up the saddle to the northwest.

After 4,000 years BP, chert and chalcedony dominate, their out-of-area origin indicating that use of the pass was increasingly for travel across the mountains.

Overall, however, the presence of multiple hearths within the test pit do not indicate one-night sleepovers during a quick trip through the mountains.

“With continuous and recurrent visitation for 9,600 years, we’re beginning to get the picture, these people were going up to the mountains to be in the mountains.”

Perhaps the most profound reason that not more is known about Indian presence in the high country is that the local culture itself had forgot the details, due to the decimation of the native populations by introduced diseases. Historian Robert Boyd, in his The Coming of the Spirit of Pestilence: Introduced Infectious Diseases and Population Decline among Northwest Coast Indians, 1774-1874 (University of Washington Press, 1999), concludes that the total native population on the Northwest Coast fell within that century from about 184,000 to 37,153—an 80 percent decline.

Although populations above, say, Rockport were probably never large, those downriver were likely fairly sizeable. Regardless, whole villages undoubtedly simply disappeared. Survivors may have moved in with saltwater relatives. With such extraordinary social disturbance, cultural memory cannot survive intact. With no written record, it is impossible to estimate how much of their cultural history was forgotten.

**Mierendorf’s Experience** in the North Cascades began in 1984. He was working on his doctorate at WSU and was a non-teaching research faculty member in the Center for Northwest Anthropology.

North Cascades National Park sent out a request for a proposal to do an overview and assessment study of archaeological knowledge of the tribes who had used the park.

Allan H. Smith compiled the ethnographic review, resulting in *Ethnography of the North Cascades* (Center for Northwest Anthropology, WSU, 1988). Smith started the anthropology program at WSU in 1950 by hiring Richard Daugherty. He also wrote the ethnographic review of the Mount Rainier area, later published by WSU Press as *Takhoma: Ethnography of Mount Rainier National Park* (2006), and was director of anthropology for the National Science Foundation.

Mierendorf took on the archaeological survey, beginning his immersion in the deep history of the area.

Before he began, only 17 archeological sites had been recorded in the park. He asked if he could record other sites that he ran across in his survey. Yes, but there wasn’t any money for that. After the survey was finished, the park found money to keep him working summers. He put everything in Pullman in storage and spent his summer living in his tent and exploring the park. Finally, in 1989 he became the first park-based archaeologist in the Pacific Northwest.

And he kept exploring.

“Sites were everywhere,” he says.

He and his crews have since surveyed about 4 percent of the park, which totals 684,000 acres. Admittedly, he says, that 4 percent constitutes some of the highest-probability areas for finding sites.

Their surveys have revealed hunting and foraging camps and quarries for chert and obsidian.

The most significant discovery was Cascade Pass.

Cascade Pass is a highly unlikely archaeological site, says Foit, who worked with Mierendorf to date the site. “It’s the top of a ridge,” he says. “You’d think there’s no way there’s anything’s going to be preserved there.”

Mazur, the photographer, stops shooting briefly to ask the obvious question. How did anyone find a 96-century-old hearth on top of a windblown saddle?

Years before the initial archaeological survey of the pass in the 1970s, a visitor had found an arrowhead and turned it in to officials.

Based on that original discovery, the Cascade Pass site had been identified by an archaeological reconnaissance survey from Western Washington University in 1977. But it was not excavated until 2005, when Mierendorf and Foit examined it.

The difficulty of working in the Cascades, says Foit, is erosion. Any site on a slope or beneath one, for example, is likely to include sediments that have washed, slid, or blown from up the slope. But here at the Cascade Pass site—far enough from the eroding slope at each end of the saddle, what they found was an uninterrupted “meter of sediment representing 9,600 years.” The site can be interpreted literally by its layers. If they find a layer of Mazama tephra, or ash, it’s fairly certain that it remains where it fell after the volcano’s eruption.
Carbon dating has established that the hearth analyzed by archaeologist Bob Mierendorf and geochronologist Nick Foit was used at least 9,600 years ago. The marmot was only one of many food options for the native people who have visited the area over the past ten millennia.
Add to this advantage the cooking pit itself. It’s a human-created geologic receptacle, accumulating tephra layers in a very orderly fashion.

Before North Cascades National Park was founded by Congress in 1968, Cascade Pass had been a very popular horse camping and hiking destination. It had been loved to death, says Mierendorf. It was trampled and eroded, the ground compacted so the native vegetation could barely grow.

Under the mission of the park, the area was closed to camping and gradually restored to a relatively undisrupted condition. But then Mierendorf put a stop to the restoration.

Managers wanted to put boulders where crumbling benches had been. Mierendorf said no. He first wanted to know what might possibly lie beneath the surface.

Mierendorf’s smallest sampling device is a corer, a long concave tool, a pipe with part of its wall missing. He demonstrates around test pit #2, pushing it into the ground and pulling up a three-quarter inch core of soil, examining it for tephra layers—and charcoal.

“But my main discovery tool was a post hole digger,” he says. Recent re-design of the classic two-handled digger enabled him to dig deeper than with the original design. He and his crew used it to dig close to 40 different exploratory holes around the Cascade Pass site.

“We dig slowly, and whenever we see a soil color change we stop, screen everything up to that point, looking for artifacts, then looking at the soil, describing it, measuring the depth.”

The fire pit, test pit #1, was discovered with a post hole. It had artifacts, remnants of tool making, top to bottom.

Besides artifacts, of course, Mierendorf found ash layers. No surprise. What was a surprise, he says, is once they penetrated beyond the ash layers, there was another set of artifacts. How old could it be?

He and Foit knew the site had to be at least 4,000 years old, as they identified the layer as an eruption of Mount St. Helens. And then they found a Mazama layer.

Mazama is the volcano that created Oregon’s Crater Lake, 7,600 years ago. Whereas the 1980 Mount St. Helens eruption spewed one-half cubic kilometer of ash, Mazama produced 34 cubic kilometers, spreading a thick, easily distinguishable chronological marker across the Pacific Northwest and beyond.

An archaeologist is necessarily skeptical. And so in spite of its apparent promise, Mierendorf suspected the Mazama layer had been re-deposited by wind, and so could not be relied on for dating.

So he opened up a test unit, a larger hole. Again, they found artifacts, then ash, more artifacts, then quartz crystals.

Mierendorf started getting excited. Maybe this was very old. And then they found charcoal. And from charcoal, they could extract carbon dates. They had reached a strata that was 8,800 years old.

They tried another test pit and uncovered cooking hearths. Eventually they uncovered evidence of more than 9,600 years of human use. Mierendorf suspects the site might be even older.

Evidently the pass was a popular gathering place over the centuries. Mierendorf found a quartz outcrop in the bedrock nearby, the source of the quartz crystals. So the site was a quarry, among other uses. The quartz revealed the use of microblade technology. Microblades were very sharp small blades flaked off quartz or other silica-rich stone. Microblade technology apparently originated in Siberia, perhaps as early as 35,000 years ago. The technology was known throughout British Columbia, Alaska, and into Siberia. At least six independent groups in North America, including Pacific Northwest peoples, used the technology. The microblades were hafted to shafts to make knives, drills, and barbed spears.

On the hike up, Foit and Mierendorf had taken a long jaunt into crystallography, weighing the virtues and tradeoffs of various tool-making materials, namely the local quartz crystals, chert from nearby quarries, and chalcedony, which is really a more specific form of chert. From a functional perspective, flint is a higher quality chert.

“I think they figured out pretty quickly, once you get a flake or a tool or a sharp edge out of a quartz crystal, it had to be much more durable,” says Mierendorf.

“It might not have had as sharp an edge,” says Foit, “but it lasted longer.”

“Why wouldn’t it be just as sharp?”

“I don’t know,” says Foit. “This is just a hunch, but when you have as tight a bond and you break something, it doesn’t break with as even a degree all along the edge. The sharpest is obsidian.”

“But that’s not a crystal,” says Mierendorf.

“Right, that’s my point. It has no directional bonds.”

“What was the question?” I ask.

“My real thought here,” says Mierendorf, “utilization of quartz crystal might provide tougher, more durable edged tools.”

“Quartz has a hardness of about seven,” says Foit. “Glass is 5.5 to 6. Chalcedony is about 6.” He refers to the Mohs scale mineral hardness. The scale is one through ten and is exponential. Talc is one. Diamond is 10.

**THE LONG AND CONTINUOUS USE** of Cascade Pass raises an interesting question, one that has brought Mierendorf, who represents the cultural resource perspective of the national park lands, into conflict with those who represent the dominant natural resource perspective. And that is the definition of wilderness.

William Bradford, leader of the Separatist colonists who sailed on the Mayflower in 1620 and later governor of Plymouth Colony, wrote in his journal of his response to his new home: “Besides what could they see but a hideous and desolate wilderness, full of wild beasts and wild men—and what multitudes there might be of them they know not...”

In spite of his bleak appreciation, Bradford makes, if unwittingly, an interesting point. He includes people in that wilderness.

Modern wilderness aficionados are not always so inclusive.

Wilderness did not exist until Congress created it in 1964, Mierendorf says, well aware of the hackles raised by such a statement. He sees wilderness as a policy definition rather than a state of wildness, as Bradford and others use the term.

“People argue that we should maintain land as it was when the colonists arrived,” says Mierendorf. “No. It was a traditional homeland of indigenous people. They were sovereign nations and held tenure to the land.”

“But they also modified the land,” adds Foit.

“The hardest thing for non-Indians to understand is that indigenous people were land managers.”

Mierendorf is unquestionably a supporter of wilderness. “The Wilderness Act is working,” he says. “But let’s not say something scientifically unsupportable to justify it.”
One of geologist Nick Foit’s specialties is tephrochronology, the study of volcanic ash, or tephra, strata in soils. Every volcanic eruption has its own chemical fingerprint. Ash from an eruption can be spewn for thousands of miles, depending on the force of the eruption and the prevailing winds. The layers of ash near the volcano can be analyzed in relation to organic materials that were buried. The organic material can be dated through a process called radiocarbon dating, by which the amount of the isotope carbon-14 remaining in the material can be measured. Living things absorb the isotope while alive. As soon as they die, that absorption stops, and the isotope starts decaying. That rate of decay is known, and the resulting measurement results in an age in “carbon years,” which has been correlated with dendrochronology, the measurement of tree rings, and can be translated to calendar years.

Once the age of the ash layer is determined and identified, it can be used to determine the age of an archaeological deposit. Foit identifies the particular ash by analyzing its chemical content through a process called electron probe microanalysis, which requires a very sensitive, very expensive instrument that resides on the eighth floor of Webster Hall.
The idea of wilderness in many minds clearly belies human impact. The notion of pristine does not jibe with the realization that an area has been occupied and lived in for more than 10,000 years.

In 1916, popular mystery writer Mary Roberts Rinehart rode up to the pass with local horsemen from Lake Chelan, then wrote about it in a book called *Tenting To-night: a Chronicle of Sports and Adventure in Glacier Park and the Cascade Mountains*. The tameness of the title actually masks the difficulty of the trip. Her party came over the ridge between Cascade Pass and Doubtful Lake, a thousand feet above us. She writes of the horses that fell off the steep traverses and of taking a wrong path up from Doubtful Lake and “having a noiseless attack of hysterics.”

The photographer who accompanied Rinehart recorded a view of the pass, looking back up at the ridge over which lay Doubtful Lake. The photograph is striking. The pass is lush with grass, but there are far fewer trees than currently exist.

The assumption of many wilderness advocates had been that there had been more trees, in the belief the horsemen had sawed them up and burned them.

Wilderness is a deeply held value, says Mierendorf, and it quickly becomes emotional. Attacking the tenets of wilderness can equate to attacking one’s values.

“That’s not what I want to do,” he says. “I want to attack intellectual bias.”

THE SUBLIME STORM we’d expected does not materialize, at least not the rain. But the wind is stiff, the clouds are still thick, the temperature has dropped 20 degrees, and we’ve put on all the extra clothes we’d brought. We start down. It will be warmer once we get in the trees out of the wind. A golden eagle soars above us on the wind flowing over the pass.

“I think it’s going to clear off,” says Mierendorf.

“Maybe in a week, somewhere,” Foit replies. We watch long wisps of clouds flow through the saddle. Against a wall above us, one stream of cloud curls up and around in a spiral. Foit and Mierendorf study it, speculating about the wind patterns and the deposition of ash up here.

On the way down, someone finally addresses the subject of the bad smell I’d been noticing on and off. I thought for sure I had dog poop embedded in my hiking boot. Someone else thought it was very dirty socks. It’s valerian, one of the most important native medicinals, says Mierendorf. One of its uses is as a sedative. Nature’s Prozac, some call it. Earlier, we’d found false hellebore, a violently poisonous plant with many medicinal uses, if the user knows its secrets.

We’re surrounded, in fact, in this rich and timeless homeland, by plants native people used as food and medicinals. One can only guess how much knowledge, botanical and otherwise, has been learned and forgotten in the ten thousand years since the ancestors sat by their fire at Cascade Pass. ☳
Desperately Seeking Sherman

Writer, poet, public figure. Sherman Alexie has hit a new level of fame—drawing hundreds to his readings, and publishing stories, essays, and poems in national magazines. But try talking to the National Book Award winner and he’s either ensconsed in his office deep into his next book, poem, or screenplay. Or he’s out of town on tour.

by Hannelore Sudermann  

“Do you love Sherman Alexie?”

a woman asked me as we walked up the stairs to the will-call table at Town Hall in Seattle. We were both there to hear the author and poet read from his latest book.

The 60-something lady with a shapeless dress and loose grey curls was smiling down expectantly from her perch two steps above. Her question was perplexing, given that Alexie, a Spokane Indian, has been criticized for his harsh realism, for his depictions of Indians, including members of his own family, as alcoholics, and most recently, for his indictment of Kindle and other digital reading devices. His subjects have included an Indian serial killer, skid row alcoholics, and a gay-bashing son of a senator.

As well, he is very hard to get hold of. Since he is one of WSU’s most widely-recognized author alums, and since he had recently won the National Book Award for his first effort at juvenile literature, I had been trying for months to interview him for a profile for this magazine.

A movie writer and producer and highly prolific creator of both prose and poetry who has had several poems and stories in the New Yorker magazine, Alexie’s star is on the rise. Oh, and he has a pretty big fan base, especially in Seattle.

About 800 people there paid the $5 fee to attend Alexie’s debut reading on the War Dances book tour this fall. A reading at the Elliott Bay Book Company had sold out two weeks earlier, so another 40-some readers and fans had lined up outside in hopes of finding an empty seat. At the repurposed Christian Scientist church, they crammed into pews and placed themselves in Alexie’s thrall for a few hours. They savored his famous extemporaneous humor, his colorful language, and the fact that this was anything but a languorous book reading.

I had started my effort to reach Alexie after he won the National Book Award for The Absolutely True Diary of a Part Time Indian. With more than 30 weeks on the New York Times best seller list, the story of a boy from the Spokane Indian Reservation who chooses to enroll in the all-white school in the neighboring farm town is a version of Alexie’s own story.

I contacted Alexie’s publicist, Christy Cox, in hopes of interviewing him. I also sent a personal note to his University of Washington e-mail (he’s a writer in residence there, and was teaching a class at the time). I sent another e-mail dropping the name of a friend of his, a well-known writer from Spokane, hoping that would help me at least catch him in person. “Good luck. Sherman’s busy,” Jess Walter told me. “Your best shot would be to bribe him with front row seats to a Cougar basketball game in Seattle.”

At that time Alexie was working on his next book, Cox told me. I could talk with him for 15 minutes on the phone and I could use one of his publicity stills. My hopes of a feature piece with a full-page portrait fell apart. How could anyone do anything meaningful over the phone?

With all this in mind, I looked back at that lady on the Town Hall steps. “I like his writing,” I said, doubting this would suffice. But she seemed satisfied. So was most of the crowd, which lapped up his performance. “He’s a rock star,” said one guy.

“He’s not,” I thought. “Rock stars are easier to interview.”

Cox is the person in Alexie’s life whose job it is to say “No,” he recently told The New York Times. I know she does much more for him, but that’s what she kept telling me. Most of our contact was a dozen e-mails...
telling me he was busy. She wasn’t entirely discouraging, but made it clear I wouldn’t get much time. By last fall, Cox had handed Alexie’s interview schedule over to his publisher, Grove Press. The publicist there also said Alexie was busy, but I might be able to get him on the phone.

For the first part of the fall Alexie was migrating up and down the West Coast like a snow goose who couldn’t remember whether it was winter or spring. Then he headed inland to promote his book in Colorado, Salt Lake City, and Phoenix, and then deeper into the country, to Chicago, New York, and Philadelphia. By the end of this year, he would have visited at least 20 states and one Canadian province.

A phone call could work, but the best way to see Alexie in action (and to get the most time of anyone who was reporting on him) was to track him. So with a list of his public appearances and radio interviews in hand, I started a four-month effort to follow him on tour. Tapping into his radio interviews, and LA Times and New York Times newspaper pieces, I had a framework. Then I sought him out in person. I started in Bellingham at a September fundraiser where he was appearing with David James Duncan, the writer from Montana. And I caught him again in Seattle in October.

Alexie looks nothing like he used to. His long hair is cropped short and he carries an air of Brooks Brothers about him in his black-rimmed glasses and dark tailored suit and tie. He even has a pocket handkerchief.

Of course, the last time I had seen him was nearly a decade ago during a poetry bout at Washington State University. Alexie was in drag — dressed like a French courtesan — powdered wig and all. As the surprise guest, he decided to come in disguise, procuring the costume from a Hollywood friend.

Now, though the look had changed, Alexie hadn’t. The Bellingham event was a fundraiser for protecting streams and salmon. “Sherman is the trickster,” the MC warned the audience. “Yeah, Indian guy doing a salmon thing,” Alexie cracked. “Grand Coulee Dam took our salmon away decades ago. You guys are a little late to the funeral.”

True to form, each of Alexie’s appearances was different. In Seattle he built on the theme of his poem “Ode to Mix Tapes” by inviting musician Sean Nelson to provide interludes of ’70s and ’80s ballads like “Sara Smile,” “Overkill,” and “They Don’t Know” between readings. The two played on the notion that the whole evening was a sort of ’80s-style “mix tape” of words and music that Alexie had contrived for the audience. I was in luck, I thought. I knew Nelson, the lead singer from the band Harvey Danger, from college. Maybe I had an in to meeting Alexie.

Maybe not. After the show Nelson told me that even he hadn’t had much time with the author lately. “Good luck,” he said.

Once I started trailing Alexie, I found that interviews and articles dating back to 1998, his own web site’s biography, and characters in his books, all offer detailed pieces of his story. He regularly plumbs his own life for material. The lead character Arnold Spirit Junior in the Absolutely True Diary of a Part-Time Indian has everything in common with a young Alexie—right down to being called “Junior,” growing up on the Spokane Indian Reservation in Wellpinit, and being born hydrocephalic.

“I had too much water,” he said once of the condition also known as water on the brain. “I had a series of obstructions, dams in my head.” When Alexie was an infant, doctors put in a shunt to drain the liquid. “It was a high-tech fish ladder,” said Alexie.

Later, the doctors removed the shunt, a rare procedure. Alexie wonders if he wasn’t something of an Indian guinea pig. “Let’s see what happens,” he quoted the doctors removing the shunt. “Oh, he became a poet.”

Because of his health issues, the young Alexie spent weeks away from the reservation, and a lot of time in hospitals and clinics among college graduates. “I learned how to migrate off that reservation early on,” he said. He also learned to read and entertain himself with the mystery and conspiracy books his father had at home.

Like his “Part-Time Indian” character “Junior,” Alexie decided to leave the Indian high school in Wellpinit to attend school with white farm kids in Reardan, more than 20 miles from his home. He believed he had to switch schools to get an education that would prepare him for college. His parents agreed to the move, though many in the community criticized him for it. He was the only Indian kid at the school.

At one event, Alexie called his mom, a social worker, on the phone. “I’m on stage in Bellingham, Washington,” he told her. “There are like 1,000 people here. Can you say hello to them?” he turned the phone to the microphone. A little voice says, “Hello.” Laughter. “I was calling you to thank you and dad for making me,” he says into the phone before turning
it back to the microphone for her response: “You sound like you’re high.”

The crowd erupts, again.

Even though he succeeded in leaving the reservation for high school, Alexie had trouble getting further out alone. He enrolled at Gonzaga University on scholarship, but dropped out after two years. He tried college again with WSU, starting in pre-med, but he failed to stomach the anatomy courses. All that time, he struggled with alcohol addiction, the same disease that haunted his father and others in his family.

The turning point, according to a story Alexie has told repeatedly over the years, was in a WSU seminar taught by professor and writer Alex Kuo. He read a piece by Adrian C. Louis, a poet from the Payute tribe. The words “Oh Uncle Adrian, I’m in the reservation of my mind” resonated. From that moment, Alexie knew he would be a writer.

At several of the Washington events, he tapped into his personal life. He talked about the first time he saw his wife Diane—on campus at Whitworth College in Spokane—and being immediately turned on... “Oh, the sunlight through her purple skirt,” he murmured.

At another reading, he described their first date at Luigi’s restaurant in Spokane. “I told her, ‘You know, I’m going to be famous,’” he said. “She laughed her ass off.”

They were married in 1994, and are raising their two boys in the south end of Seattle.

“Things are different for artists now, he told the crowd. “I don’t write memoir, it’s not what I’m doing,” he said on the radio interview. “I see the Grand Coulee Dam and the end of wild salmon for my people,” providing the metaphor for an end of print literature for our culture. As an Indian, he knows about addiction, he said. “We are becoming a digitally-addicted culture.” He admits the irony of an Indian (from a culture with an oral storytelling tradition) defending another culture’s print tradition. But he also notes that the custom of storytellers meeting with an audience—much like he has done on his book tour—will end with the demise of bookstores.

From the beginning, Alexie’s stories have been his own—based on himself, his friends and family, the reservation where he grew up. “I don’t write memoir, it’s not what I’m doing,” he said on the radio this fall. But a real life event can inspire a better fiction. In War Dances, the title story weaves together his experience of his father dying of complications from alcoholism, and his narrator’s health concerns and feelings of being a parent. The piece centers on his search inside a hospital for another Indian who might have a real Indian blanket he could borrow to keep his father warm.

In November, Alexie’s publicist writes to say he’s no longer scheduling Alexie’s interviews. I’m sent back to Cox. A few weeks later I get a gripping e-mail that Alexie is no longer scheduling interviews at all, he’s had a grueling tour and is closing his calendar. I understand. Since his debut reading in Seattle, Alexie has traversed the country multiple times—even people he knew from his childhood, for his representations of his family, and his community.

On the other hand, Alexie has voluntarily been a voice for Indians, judging and commenting on Caucasian representations of Indian culture. When he suspected a memoir about growing up Navajo by an author named Nasdijj was actually fiction by a Caucasian, he contacted the publishers with his concerns. He was right. Later when the fraud was revealed, he wrote an essay for Time magazine suggesting that the writer had taken some of his tone and ideas from Alexie’s own story. He explained how inappropriate and damaging it can be when a writer poses as something he isn’t and presents an experience that his readers will use to form their understanding of a people.

He also stepped forward to address lan Frazier’s book The Rez, about the author’s experiences with Oglala Sioux. While the book presumes to be about the Oglala Sioux, it’s really about how Frazier believes the Indians to be, Alexie wrote in the Los Angeles Times. At other times Alexie has asked that Indian writers be allowed to tell their own stories first and establish their voices, before other (famous Caucasian writers with publishers and book deals) go in to interpret the Native American experience.

In addition, Alexie has been asked to comment on a range of issues and images, including casinos, fishing rights, and the New Age appropriation of Native American religion and ceremony.

Alexie is not one to shy from a fight. One of his latest crusades is against Kindle—and all digital technology that aims to replace books, newspapers, and magazines. “You see a cool device,” he told one audience.

But Alexie has also been a voice for Indians, and has been an activist for indigenous rights and discussions about the past. He was a strong supporter of the 2004 march to the Grand Coulee Dam, which represents the Native American perspective on the dam and its impact on salmon.

Alexie is known for his passionate and sometimes controversial speeches. He has spoken at universities, conferences, and events around the country on issues such as cultural appropriation, the importance of storytelling, and the need for Native American voices to be heard.

Overall, Alexie has used his platform to advocate for Native American rights and to challenge the ways in which Native American culture is represented in mainstream media. His writing and activism continue to inspire and challenge readers around the world.
Edgar Award-winning writer Jess Walter. Again, this event is packed—quite different from the Alexie reading I attended there in 1998 with only about 40 people in the audience. In addition to maybe 200 in folding chairs, about 30 people stand in the back of the third-floor space. The two writers, who both came from struggling families, who both came of age in the Spokane area, and who share a love of writing and of basketball, riff off each other in front of their friends and families. They joke about reading their books on tape. “It’s funny, they don’t let you improvise,” says Alexie. “That’s weird since it’s your own damn words.”

The gamble of trekking to Spokane pays off. I finally get to talk with Alexie, though it is a brief conversation after waiting in line with more than a hundred others wanting to have their books signed. I place a book in front of him and confess that I’ve been following him on his tour—hitting his venues in Washington. He smiled. “Are you stalking me?” Walter, who I know from when I lived in Spokane, is signing books next to him. “I’m stalking you and him, too,” I say, nodding toward Jess. They both grin. “It’s a sad thing when two writers have to share a stalker,” says Walter. They both crack up.

Alexie’s Spokane appearance is by far the most revealing. “I’m home,” he says. “I had lunch today with my family.” His mom, nephews, nieces, and cousins were in the audience. “It’s a great privilege and honor to have family show up at every reading and hear stories about themselves,” he says. “It’s a rare thing.”

“This distance between where I came from and where I am now—you have this double or triple consciousness about it,” says Alexie. “It’s unreal.”

“I miss my dad all the time,” he says, explaining that he cut his long hair when his father died and that according to custom, when he stops grieving, he may grow it out again. “I have such a weird life. I wish he were here for it.”

I never got that 15 minutes with Sherman Alexie on the phone, but I ended up with much more, more than The New York Times, more than the public radio stations. I got to see Sherman all across the state—joking with his fellow writers and friends David James Duncan and Jess Walter, and at home in Spokane with his family around him. I even met him in the bookstore where as a kid he bought his Dungeons and Dragons paraphernalia. I saw him through the eyes of his fans, through his teachers, through his family.

It’s in Spokane that it becomes clear that Seattle was a necessary move, just like leaving Wellpinit and the reservation to attend high school in Reardan, leaving Reardan to find his way to college in Spokane and Pullman, and leaving Eastern Washington to make his way in Seattle. Some people think of Alexie as being from Seattle now, since he moved there 15 years ago. He doesn’t like that.

“What’s more Spokane,” he asks, “than a Spokane Indian?”

Native American artist Ric Gendron discusses his portrait of Sherman Alexie at wsm.wsu.edu.
MY FATHER DIED IN HIS KITCHEN.

He wasn’t cooking, however. He was replacing a lightbulb. He’d climbed up a stepladder to reach a fixture in the ceiling, and in the process suffered a massive heart attack. Since he lived by himself in an apartment in St. Louis, it took many hours before the landlord found his body, crumpled on the floor at the base of the ladder. His cat, meanwhile, was wandering from one room to another.

I mention this not because I wish to be morbid—though I have no objection to morbidity—but because lately I’ve been thinking about the coercive relations between society and language, and my father embodied one of the best examples of this phenomenon I’ve ever encountered. Born near Pine Bluff, Arkansas in 1926, he grew up speaking in a slow drawl that marked him instantly as a rural southerner. When he returned from active duty in World War II, he took a job as a radio announcer, and since he had a deep voice and a laconic sense of humor, this seemed an excellent choice. There was just one catch: he needed to change his accent. No one told him this, but he knew perfectly well that if he sought a chance at working for a major urban station, he’d have to speak in the standard English of middle America. So he abandoned the relaxed speech rhythms of his native South and adopted a more rapid delivery, sharper enunciation, and locutions characteristic of the upper Midwest. It worked. He never again spoke like a boy from the hills of southern Arkansas.

Perhaps this wouldn’t happen nowadays. Perhaps American society has moved beyond such trivial pressures. But I doubt it. I think, rather, that the manipulation of language habits has taken on more insidious forms. Consider, for instance, the linguistic norms of social networking sites. Here’s a random “tweet” I found on the internet: “OMG thats hystrical cn u believe he sd that!!! :).” Granted, there’s a certain density of expression here, but I wouldn’t say that the comment tells us much about the tweeter’s unique individuality. If anything, it does just the opposite. There’s great safety in merging one’s identity within collective forms of expression—and greater ease of interpretation for those encountering such discourse. But the loss is also tremendous.

Last summer, on Father’s Day, my two sons persuaded me to join Facebook. They helped me set up a profile page and explained the process of uploading photos. Now, after seven or eight months, I’ve amassed a...
modest group of “friends”—a group perhaps better characterized as a statistically-improbable assemblage of relatives, in-laws, high-school buddies, current colleagues and former students. I scarcely ever write on people’s “walls” or provide “status updates,” but I confess that I find Facebook’s linguistic habits fascinating—and disappointing. If the essence of poetry is original and evocative use of language, then the dominant lingo of networking sites is anti-poetry. It’s fast-food communication, saturated in cliché: language marked by a peculiarly indulgent conventionality, a willful exclusion of imagination, an unapologetic triviality. There are exceptions, of course, and I wouldn’t be surprised if some future Wallace Stevens isn’t lurking in the verbal crevices of MySpace. But any exceptions merely prove the rule.

Still more disturbing is the invidious spread of corporate language within discussions of university life. An editorialist in my local newspaper recently opined that he had “long considered higher education to be a business, with the product being a graduate with a degree.” I’m hardly the first person to lament this kind of talk, but as a classroom teacher I find that it affects me in very direct ways. To the extent that education has become a “business,” students have become both “products” and “consumers,” and courses are now “delivered,” like so many Domino’s pizzas. Faculty talent is “intellectual capital,” and the university “invests” in certain programs while “divesting” itself of others—typically those that attract no money from outside agencies. “Stakeholders” within the “education industry” are expected to “buy into” such decisions; they’re tacitly encouraged to speak in the dead metaphors of getting and spending, profit and loss.

So why is this a problem? The “bottom line,” after all, is that modern American universities are intricately enmeshed in state and federal economies—and they also depend hugely on private funding. It’s a problem not because universities don’t have a significant financial dimension, but because emphasizing that dimension at the core site of education is completely inappropriate. The British philosopher Gilbert Ryle referred to this sort of error as a “category mistake”—a false or confused attribution. Yes, money is often a prerequisite for education. We need it for buildings, equipment, libraries, supplies. But it plays no part in the essential act of learning. I’m idealistic enough to believe that a university is doing the best thing it can possibly do when it enables its students to think for themselves. When they question authority, when they try out new perspectives, when they experiment, doubt, analyze, argue, imagine and create—that’s when learning occurs. And this, in its essence, has nothing to do with dollars and cents. Indeed, to conceive of education in terms of financial transaction is to degrade the entire enterprise. Money has no business in the classroom, the laboratory, or the hallway exchange between student and teacher that sparks an exhilarating flash of discovery.

Not surprisingly, Shakespeare was acutely conscious of the corrosive effects of money on human affairs. In his play *Timon of Athens*, Marx’s favorite work (and I don’t mean Groucho), we witness the title character’s gradual recognition of the ways in which wealth functions as a corrupting force. As Timon puts it, gold can “make black white, foul fair, wrong right”; it’s the “common whore of mankind,” often serving to “knit and break religions,” and it has the potential to taint every relationship, debase every principle. Potential, of course, is distinct from certainty, and there’s no question that wealth can be channeled toward wise and healthy ends. But this requires vigilance. And in the gated community of university administration—isolated from students, classrooms, and the messy work of instruction—such vigilance is not always maintained, particularly with regard to language. Too often the fiscal preoccupations of upper administration infiltrate the ways in which education is discussed. Too seldom are pecuniary motives excluded from these discussions, even those concerning the central purpose and most fundamental feature of university life: learning. When students enter a classroom in the belief that they’re purchasing knowledge, teachers face the added task of disabusing them of this idea. Luckily, the critical thinking involved in such an interaction exemplifies part of the true value of college attendance.

Concerns like the one I’m expressing here—concerns about the ways in which education is represented in language—are not particularly rare, but they’re unlikely to gain much attention at the levels where useful change might most easily be initiated. Because of the ongoing marginalization of the humanities in American culture, people interested in language and representation achieve only limited success in persuading others to consider their views—let alone to adopt them. Humanities professors are viewed nowadays as quaint relics of another era, amusing in their enthusiasms but ultimately insignificant: as benign as a handful of Cheddar Bunnies. We can’t cure cancer, or develop better strains of wheat, or even proffer astute analyses of our quarterly reports from TIAA-CREF. We show up on the evening news with roughly the same frequency as the giant Palouse earthworm. But this doesn’t mean we don’t know what goes on at the heart of university education. We do. And most of us find it not merely inaccurate but grotesquely misleading when learning is described in quid pro quo financial terms. You can’t buy education any more than you can buy happiness.

I never heard my father’s original accent. By the time I was old enough to realize that his speech habits were adoptive, he was unwilling and probably unable to revert to his native idiom. Part of his identity had been lost. And much of what’s lost in life is beyond retrieval. But sometimes loss can be an occasion for newly-discovered vitality. Especially with issues of language, this prospect—though too rarely explored—is always present. Where better than the university to challenge ourselves to avoid linguistic lemminghood? Where better to represent the central scene of learning with vigor and accuracy: not as a purchase or a business deal, but as an intellectual encounter with transformative possibility? ☺

Will Hamlin teaches English at WSU. The author of two books on Renaissance literature, he is a Guggenheim Fellow and a recipient of research support from the British Academy and the National Endowment for the Humanities.
O N E  D A Y  T H I S  W I N T E R  Ron Wierenga ’93 and I drive out to Vancouver Lake. The road from downtown bends north and west, paralleling the Columbia River for several miles through an industrial district and past the port. Wierenga, who manages the clean water program for Clark County, points to a gray structure a few hundred yards to our left. “That’s a barge right there,” he says. “The Columbia River is just on the other side of that dike.” As we ease out of the city, the landscape flattens and opens up. A gaggle of cackling geese in a field ignores us as we drive by. As we get out to look over the lake, a man with a small black cockapoo climbs down from his pickup for a lunchtime walk.

There was a time when this spot would routinely go underwater. The Columbia would rise and flood its banks and pour into this area, says Wierenga. It would recharge the lake with fresh water, which would later flow back out to the Columbia through Lake River to the north.

But that was more than a century ago. The area was settled, the land was deeded to the port, and dikes were built. Then in the 1930s construction of the Bonneville Dam 40 miles upriver changed the way the Columbia behaved. For the lake, that meant an end to the regular flooding and cleansing.

Late last summer, Vancouver Lake was closed by the Clark County Health Department.

The lake may be picturesque, but at the time its waters had dangerous levels of E. coli and cyanobacteria (blue-green algae). Swimmers, waders, and wind surfers were banned for 30 days from the quiet, shallow water.

Other users—including walkers and birdwatchers—shied away as well.

The bell-shaped lake covers about 2,300 acres. It is about two miles wide, but only 15 feet in its deepest spots. The middle of the lake is less than four feet deep most of the time. Still, it has seven miles of shoreline as well as views of Mount Hood, Mount St. Helens, and Mount Adams.

On one side it is surrounded by fields, farms, and the Shillapoo Wildlife Recreation Area. That landscape has barely changed from the time of the city’s settlement. The other side is flanked by Fruit Valley, a neighborhood that sprouted during the ship building boom of World War II and today holds about 1,000 households.

The lake is home to several rowing teams and a 93-member sailing club. It is where beginning kayakers first hit the water, and children can learn to sail in little O’pen Bic boats.

For the resource that it is, though, the lake is pretty quiet. “From my perspective, it is underutilized considering its proximity to Vancouver and the size of the lake,” says Wierenga, who has a master’s in environmental science. “I think people are intimidated by the water quality problems. They really love the lake; they’re just afraid of the water.”
TROUBLED WATERS

About five years ago, the community grew concerned over algal blooms and the levels of possible toxins in the lake. They were worried about public health, and that their pets might become sick from drinking and playing in the water. The lake became a high-profile public issue and in 2004 a community partnership was formed to bring together the port, the city, and the county to manage activities around the lake, including guiding research and involving the public. As well, the U.S. Army Corps of Engineers, the state departments of Ecology, Fish & Wildlife, and Natural Resources, and nine citizens joined the group.

It wasn’t the first time someone tried to fix the lake. In the 1960s, a team led by Washington State University engineer William Funk studied it to see if changing the way water flowed through would clear up some of the blue-green algae problems. Vancouver Lake was one of Funk’s first projects in Washington, where he had been hired as a limnologist—“sort of a fresh water oceanographer.”

At the time the lake was extremely shallow and very stagnant, says Funk. “You couldn’t take a boat in.” The mud was so deep and viscous that one day when he waded in, his team had to pry him back out with a pair of oars.

To better understand the lake’s history, Funk visited with longtime locals, who told him they remembered when the lake had been at least 30 feet deep. “But it was pretty well down the tubes when we saw it,” he says. With massive “blue-greens,” it was perhaps the worst lake that he had ever seen. Much if its water was coming in from Salmon Creek where there was septic tank drainage. The high level of nutrients, shallow depth, and stagnant water made it an ideal home for algae blooms.

Funk’s crew, which included colleague Surinder Bhagat and several graduate students, spent July of 1967 on the lake in a boat they called “Big Red.” Their assignment was to take samples to assess water pollution and see if the lake could serve the community as a large water-based recreational site. Funk’s team also researched plans for dredging and flushing the water body. But the proposal made elected officials nervous. In addition to being intensive and expensive, “I thought there was a 70 percent chance it would work and a small percent chance there would be a disaster,” says Funk.

His study and recommendations eventually succeeded, though it took close to 20 years to complete. In the 1980s, the U.S. Army Corps of Engineers dredged the lake and massed up the sediment in the middle to form what is now called Turtle Island. Then, at the spot where the lake is closest to the Columbia River, the Corps dug a canal about 4,000 meters long and installed tidal gates at one end. The nearly $20 million effort linked the Columbia to the lake. When the ocean tide is high and the river is up, water flushes down the canal and into the lake. Then it flows around the lake and then out to Lake River, which feeds back into the Columbia downriver as it heads toward the Pacific Ocean.

Funk went on to help clean up of a number of other Washington waterways, including Liberty Lake, Newman Lake, and Lake Roosevelt. He was also director of the State of Washington Water Resource Center housed at WSU in Pullman. As for Vancouver Lake, the project was right for the time, says Funk. But in the ensuing years the population of Vancouver has nearly quadrupled to 160,000, farming has faded, and the lake may be facing a whole new source of problems. The dredging and digging of a flushing canal “did improve it some, but it definitely didn’t solve the issue,” says Wierenga.

SMALL SOLUTIONS

Recently, the local agencies turned again to Washington State University for help. This time it came through two newly-arrived scientists at WSU Vancouver: ocean biologist Steve Bollens and his wife, biologist Gretchen Rollwagen-Bollens.
The lake is a resource for wildlife, like this merganser eating a small fish.

Opposite, left to right: Biologists Gretchen Rollwagen-Bollens and Steve Bollens study plankton in their WSU Vancouver lab; neighborhoods, farmland, and recreational areas place diverse demands on the lake.
While Funk had urged a large-scale solution of dredging and flushing the lake, Bollens and Rollwagen-Bollens are working on the much smaller scale of microorganisms. These single-celled and multi-cellular invertebrates are another piece of the mystery of why the water clouds over with cyanobacteria each summer. Normally they eat the blue-greens, but for a time each year they’re not able to keep them in check.

Local volunteers had already started sampling the water for algae and toxins, but no one to that point had looked at the zooplankton, the microscopic underwater “grazers” (as Rollwagen-Bollens calls them) who eat algae and bacteria and in turn become food for fish.

Blue-green algae is a particularly tricky problem, she says. It’s not really an algae, but a bacteria. While it is an aquatic organism and it does photosynthesize, it lacks a nucleus. And it can be toxic to people and animals, particularly when a number of them get together and form colonies that become strands and tangles of the bacteria linked together. Given the right amount of warmth and nutrients, these colonies bloom and form a thick mat on the lake’s surface, blocking the sun for other organisms. And as they die and decay, they leech the oxygen from the water.

“The county was really interested in knowing what causes these blooms,” says Rollwagen-Bollens. “One, there are lots of nutrients in the water. That’s no mystery.” But there are also the predators to consider. “We need to know what’s going on with the grazers.”

Now in their third year of sampling, the WSU scientists have found that different kinds of cyanobacteria have dominated the lake in different years. There’s *Anabaena*, *Aphanizomenon*, and *Microcystis*, “or Annie, Fannie, and Mike,” as the aquatic biologists like to call them, says Rollwagen-Bollens. They may sound cute, but they’re nasty. “Mike is probably the most toxic,” she says. This particular bacteria can form a toxin that triggers liver failure.

So the scientists and their graduate students have been sampling from the lake and watching the movement, behavior, and diets of the plankton that normally feast on the algae and bacteria. “It turns out, at least in Vancouver Lake, a couple weeks prior to the bloom, the micro-zooplankton seem to be almost exclusively grazing on taxa other than cyanobacteria,” says Rollwagen-Bollens. That leaves the door open for the blue-greens to colonize. Once they’re in strand form, they’re more difficult for the small plankton to eat.

“We’re still analyzing the larger grazers, but they seem to be playing a role here as well,” says Rollwagen-Bollens. It’s important to know the biological interactions in the lake so that perhaps something can be done to encourage or discourage certain behaviors.

“The sad fact is Vancouver Lake is not unique,” says Rollwagen-Bollens. “But what we learn in Vancouver Lake is going to help us understand shallow, warm-temperature lakes even more.”

“Having a research site in one’s own back yard is a good way to put it,” says Steve Bollens. “It’s really valuable for training graduate students as well as undergraduates.” They’re regularly at the lake collecting samples. They’re also running well-controlled experiments back on campus with types of grazer populations in the laboratories. While the case is very local, and a good example of how WSU is fulfilling its land grant mission by serving a Washington community, the problems of this lake are concerns in lakes throughout the Northwest, says Bollens, “and even more significantly, really occurring in temperate or mid-latitude regions around the globe.”
Paul J. Ishii ’81

General Manager of Seattle’s historic Mayflower Park Hotel.
Current chair of the Washington State Hotel and Lodging Association, and named General Manager of the Year in 2006 by his peers.
Provides volunteer support for the WSUAA’s Asian American/Pacific Islander Alumni Alliance and WSU’s School of Hospitality Business Management.
Loves that he met his wife Jane ’79 at WSU.
Member of the WSU Alumni Association.

“Jane and I joined because membership helps the Alumni Association provide genuine opportunities for alumni and friends to make a positive difference for WSU. Belonging to a meaningful organization is important to us.”

Membership Matters.
Join Today.
Joni Earl ’75—CEO of Sound Transit

When Joni Earl ’75 joined Sound Transit in 2000, she was unaware of the crisis facing the agency, which provides public transportation for Snohomish, King, and Pierce counties. As the new Chief Operating Officer, she was asked to review the struggling $1.9 billion project to build a light rail 21 miles along the Puget Sound corridor from SeaTac Airport to Seattle’s University District. She discovered that it was several years behind schedule and would cost at least $1 billion more to complete. Three months after she took the job, her supervisor resigned. Earl became the acting executive director and later that year was hired as the permanent CEO.

Throughout her career, Earl has gone into messy situations and cleaned things up. In July, Sound Transit opened its first 14 miles of light rail service. By December, the line was extended all the way to Sea-Tac Airport. Sound Transit now serves 14 million riders annually with buses, commuter trains and light rail.

PAY YOUR DEBTS: At WSU I typed term papers and did odd jobs. It gave me spending money. I would come home on vacation and I would work for the city of Bremerton and I would work in the county auditor’s office. I worked as much as I could. I had saved enough money to pay my tuition and books. My parents were able to send me $60 a month. But by my senior year the last semester I was just flat out of money. I was carrying 21 credits. I just didn’t have the time (to work). I was going to have to go on food stamps.

My family had a family meeting. My grandparents took out a mortgage for $750. It was a big deal because they had no debt. When I graduated I had $120 left. My girlfriends and I piled into a Datsun B210 and drove down to Reno. Our place to stay fell through, so we had to find a cheap motel. That left me with $15 to $20 a day for everything. I would take my $20 and leave the rest in the hotel room. The last night, I
was out except for whatever little I had left. I was playing keno cards constantly—because it was a slow way to lose money. We were going to leave at midnight. At 11:40 that night playing keno I won a $750 jackpot. I came back and paid my grandparents and was clean and clear.

CHECK YOUR WORK: One of my first jobs was working in the Bremerton city treasurer’s office. About a year into it the city treasurer passed away unexpectedly. So they appointed the assistant city treasurer to the position. Then they tested under civil service for assistant treasurer. Three of us took the test. I came in ranking second. I felt really good about that. Then I went to review my scores and I found they made an error in my score. They took it back to the civil service commission and it was corrected and I got first. I had 17 people working for me when I was 22 years old. That started me on an unplanned management track. Every job I’ve had since then has been a management position.

LEARN FROM YOUR EMPLOYEES: It was a great training ground—both on how to work with people when you are young and inexperienced and how to handle a crisis. The city also had a major conversion of a new water billing system going on. That is an unfortunate or fortunate pattern in my career. It was crisis I didn’t really understand when I went for that position.

OPENING UP HELPS PEOPLE TRUST YOU: I was just pretty candid with the employees when I met with them one on one. . . . I was very quick to say I know I don’t know. (The situation improved) once we got over that initial hurdle of them going “Oh my god, she’s a baby practically and we’re working for a woman.” I’m often, especially early in my career, the only woman in the room in management ranks. Once I got through those initial hurdles of them getting to know me better, I think it ended up well.

SEEK A CHALLENGE: (In 1987 she became city manager of Mill Creek.) I came in on year four of a newly incorporated city. And I was the fourth city manager in four years. It was a bit of a tumultuous time. I learned later that the debate of the city council behind the scenes was that they thought I was too young. I was 32. But they ended up voting for me. They hadn’t found out yet at Mill Creek how to be a city. I was there four and a half years and it was a stabilizing time.

BE READY FOR “THE ASK”: I was starting to think about what’s next. I was up for a new challenge. Bob Drewel asked me (to be his deputy county executive for Snohomish County). We went to the Olive Garden in Everett. We barely had our napkins in our laps and he said, “I have just one question for you Joni: Would you be as excited to come and work with me as I would be if you’d say yes?” I said, “I think so. Are you offering me a job?”

KNOW WHERE YOU’RE GOING: From the time I announced I was leaving Snohomish County—I gave a six-week notice—there started to be these newspaper stories and opponents to the (Sound Transit Light Rail project) calling for audits. I called and said is everything OK? Bob White, the executive director, said, “Don’t worry about it. I need you to come. Everything will be fine.” I started October 9th (2000). By the first week in November it became abundantly clear that we had huge problems and we didn’t know how big they were. Then Bob White asked me to look at the light rail project from top to bottom, to look at all the costs. We did that over a five-week period. We were $1.1 billion over budget and three years behind schedule. It got worse, but that was the bad news at that point.

I had been in media settings before, but nothing this intense. I was the face of that news because I had led this effort. In those days I had never dealt with anything this big.

TAKE CHARGE: When Bob White resigned, I was appointed acting executive director. There wasn’t really anybody else in a position to do it. A week later, a new Congress was seated—and a two-year Federal audit was started. Then a new secretary for transportation under the Bush administration held up the money (a $500 million grant).

We reexamined the project with finance and other people. The cost system and decision process had to be revamped. It ended up with us taking the 21 light rail miles and breaking it up. It was so intense I went for five months without sleeping. That was the easier part. The harder part was that we had huge problems and we didn’t know how big they were. Then Bob White asked me to take a look at the light rail project from top to bottom, to look at all the costs. We did that over a five-week period. We were $1.1 billion over budget and three years behind schedule. It got worse, but that was the bad news at that point.

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Kali Sakai (’97 Comm.) and husband Ken Moore welcomed daughter Sidney Katsuko in September.

Eugene Sakai (’66 Zoology) is a proud grandpa.

2000s

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Paris Powell (’02 Bus.) was honored as one of the Vancouver Business Journal’s “Accomplished and Under 40 Class of 2009.” She works as a business valuation manager at Perkins & Company and volunteers with organizations including United Way and the WSU Alumni Association.

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Jeremiah Campbell (’05 Spanish, ’08 MEd) and his wife Marjorie have been commissioned by the Assemblies of God Church to work in Bolivia as missionaries. They plan to move there with their young son Judah this summer. There they will work with small children who live in the prison system with their parent because of lack of government programs. Campbell currently teaches high school Spanish in central Washington.

Leah Rouleau (’06 Ed., ’07 TC) and Travis Wright (’07 Ed. TC) were married in June 2009. The couple lives in Pasco.


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In Memoriam

1920s


1930s


Muriel H. Ormsby x’31, 95, June 23, 2009, Spokane.


Kathryn Louise Miller Bowden (’34 Home Ec.), 100, October 4, 2009, Seattle.

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Cougar Links

Palouse Ridge homecoming

by Hannelore Sudermann :: A little more than a year after the grand opening of the Palouse Ridge Golf Club in Pullman, the 315-acre course has garnered national attention as one of the best new courses in the country. It has also gained a cadre of Cougar alums who have come home to help run the business.

Most recently Tyler Jones ’92 joined as general manager last September. His last job was as general manager at Poppy Hills Golf Course in Pebble Beach, and before that he worked at the Poppy Ridge course in Livermore and the Sun Valley Resort in Idaho. “It was kind of a perfect fit, really,” he says of the course on WSU’s campus. He and his wife Callie had been living in California for 12 years. “We never thought we’d live there at all.”

Since he was hired by management firm CourseCo, Inc., last fall, Jones has had only one chance to play the course, but says that it lived up to its recent accolades. In January Golf Digest ranked Palouse Ridge as the No. 2 best new public golf course in the country. And last October Golfweek ranked it the second best new course in the country.

Unfortunately, the course opened at a time when the golf industry is on the decline. People don’t have the money to spend on a round of golf that they did a few years ago, says Jones. But maybe with its peak green fee at a mere $89, golfers will be drawn to the Palouse out of the Puget Sound, Spokane and Portland areas, he adds. “It’s here and it’s ready and it’s one of the best in the Northwest, if not one of the best in the country.”

Jeremy Wexler ’00, has been on the course a little longer, taking the job as the golf profes-
Dwight Damon ’62

Straight smiles

by Larry Clark :: Orthodontist and inventor

Dwight Damon ’62 loves to see the beautiful smiles and straight teeth of his patients. Even better, he knows they’ll look and feel better thanks to his innovative approach to orthodontic care.

Damon recently received the 2009 Regents’ Distinguished Alumnus Award, the University’s highest honor. The Spokane-based orthodontist is best known for creating a new system of braces that reduce pain, length of treatment, and number of teeth that need to be extracted.

In his work, Damon observed that bone and tissue in patients responded in interesting ways to reduced force on the mouth, which led him to develop a new system of braces. “Traditional braces, by the very nature of how the wire is tied into the braces, are bound up and cause friction. It’s hard for things to move. Therefore it pushes harder on teeth, and makes the treatment plan for the patient totally different,” he explains.

Damon’s system replaces elastic and tight metal wires with “doors” on each brace and high-tech wires that allow movement. It puts 500 to 600 times less force on each tooth than traditional braces. Clinicians found the Damon Bracket System is effective not just on teeth, but on the arch of the mouth, facial profile, and airway.

Orthodontists around the world now use Damon’s bracket system. And for his efforts, Damon has received numerous professional honors, including election as a Fellow of the Royal Society of Surgeons of Edinburgh.

He credits his friends, family, and education for a large part of his success. Damon grew up in a small house in Spokane, the son of teachers. Although his family was not wealthy, Damon’s parents valued education and encouraged ambition. He says he learned “you don’t have to grow up or live in New York, London, Paris, or Tokyo to invent something that can have an impact on the world.”

He attended Washington State University on an athletic scholarship, as a three-year starter on varsity basketball and as a varsity baseball player. As part of his scholarship, he swept the floors of Bohler Gymnasium, which meant he often didn’t get to his studies until late at night. He graduated with a bachelor’s degree in zoology.

Damon fondly recalls his teachers at WSU, including anthropology professor Richard “Doc” Daugherty and especially zoology professor Herbert Eastlick, who insisted academics came before all else. Damon would take his anatomy homework on basketball and baseball road trips, including a memorable voyage to San Francisco. Damon would go into the hotel bathroom, turn on the fan for formaldehyde fumes, dissect an animal specimen, and hang it in a bag outside his room.

In a rush to get to a Stanford game, though, “I jumped up, packed everything and ran down. All of sudden it dawned on me as we were going down the road that I had left it hanging

Adolph Bednarik ('37 Forest and Rangeland Mgmt.), 93, August 26, 2009, Olympia.
Frances M. Ramsey ('37 Lib. Arts), 93, October 13, 2009, Spokane Valley.
Iva Lee Watts Duskin x39, 87, September 30, 2009, Tumwater.

1940s
Iva Lee Watts Duskin x’40, 87, September 30, 2009, Tumwater.
Dr. Philip J. Pfarr ('40 DVM), 93, September 16, 2009, Spokane.
Virginia Storm Throssell ('41 Engl.), 89, October 17, 2009, California.
Nels Konnerup ('42 DVM), 92, July 21, 2009, Camano Island.
Lester Dan Lyle ('42 MS Engr.), 90, September 28, 2009, Kennewick.
Harold E. Warsinske ('42 DVM), 91, December 25, 2009, Stanwood.
Anna Ruth Gilbert ('44 Home Ec.), 90, September 16, 2009, Cupertino, California.
Helen Grace McConkey ('49 Sociology), 82, October 1, 2009, Des Moines.
Bernice M. Burgess ('49 Sociology), 82, October 1, 2009, Vancouver.
Lawrence Stanley Moore ('49 Econ.), 81, December 28, 2009, Fredricksburg, Virginia.
Don K. Shaffner ('49 DVM), 89, October 25, 2009, Billings, Montana.
outside the window. That story hit the front page of the San Francisco papers and up and down the coast.”

Following dentistry school and a stint in Vietnam, Damon carried his work ethic into his Spokane orthodontic practice. His son, also an orthodontist, works with him, and Damon continues to improve the Damon System. The sixth generation of the braces features completely translucent brackets for aesthetic appeal.

And he’s not slowing down. The careful observation that led Damon to develop the system also leads him to believe that adjustments with the Damon System might help breathing problems such as sleep apnea. He has contacted several institutions to analyze his data.

Damon says he plans to keep expanding the possibilities, never wanting to do less than the best for his patients, and inspired by his WSU friends and instructors.

“I say, ‘Gosh, I could have done more. I’ve done the best I can do, but next time I’m going to be even better.’ It’s always driven me, whether it’s in sports, academics, or life,” says Damon, with a glowing smile. “That’s why in my fortieth year as an orthodontist I love it more than ever.”

Brian Carter ’06
On the same garden path

by Richard H. Miller :: Brian Carter ’06 is a natural resource specialist with the U.S. Army Corps of Engineers, but he often uses a shorter description.

“I’m a curator,” he says, while offering up the Latin name for a tree at Seattle’s Ballard Locks. “I make sure your grandchildren will see the same garden you do, just in a different life span.”

Carter is talking about the life span of trees and shrubs in the Carl S. English Jr. Botanical Garden next to the locks that link lakes Union and Washington to Puget Sound. But he could also be referring to the life span of visitors, whose descendants may someday enjoy descendants of these plants.

The difference between life spans and life cycles grows blurry here. At the locks schoolchildren are bathed in sea-green light from the fish windows where they watch salmon
migrate upstream to spawn and die. Outside, young salmon get a flying start to their life cycle as they’re blasted downstream through cannon-sized flumes.

In the garden named after him, Carl S. English ‘29 lives everywhere: In the rare plants he selected and propagated, in the landscapes he designed with leaf and blossom, in the arched branches that frame an expanse of lawn. Though he retired from the Locks in 1976, English couldn’t stay away. Two years after retiring, “Carl died cutting firewood out back,” Carter says, gesturing over his shoulder toward the maintenance lot. English was 71.

Carter often calls English by his first name, as though Carl were still out back turning on sprinklers to scatter picnickers or brandishing a rake to keep children from treading on tender sprinklers to scatter picnickers or brandishing hoes and brooms anymore.”

“You can’t get away with chasing people with plants. “Carl was very passionate,’ Carter says. “We’re the crown jewel for the Corps of Engineers on the West Coast.”

Now Carter, 48, holds English’s old job as head gardener. He used to be second-in-command at the garden. But he had topped out in his pay grade, and he wanted a promotion. He needed to finish his university degree to go further. So he followed English’s path to WSU. Instead

Earl L. Muir (’54 Arch. Engr.), 77, November 28, 2009, Pullman.
Carl Andrew Mansperger (’55 Ag. Engr.), 77, December 10, 2009, Pasco.
Carol Slawson (’56 Ed.), 75, July 16, 2009, Seattle.
Donald Beale (’55 Math, Phys.), 80, October 2, 2009, Silverton, Oregon.
Duane Sorenson x’55, 78, October 5, 2009, Surprise, Arizona. He was also a WSU employee.
David F. Schuy (’59 Ag., ’63 MA, ’76 PhD Ag. Econ.), 71, August 5, 2009.

1960s
Barbara Lovell Samuelson (’61), 64, February 26, 2008, Bainbridge Island.
Cecil Hannan (’63 EDD), 84, October 24, 2009, Spokane.
Charles Edward Phillip Simmons (’65 PhD History), 78, August 4, 2009, Midland, Texas.
Dan Joseph Radecki (’66 Physics), September 6, 2009.
Mary Ann Stenson (’67 Hist.), 64, November 20, 2009, Seattle.
Susan Abbie Briggs (’68 Ed.), 66, June 28, 2009, Huntington Beach, California.
Dwight DuVall (’68 Pharm.), 66, November 6, 2009, Moses Lake.
Donald W. Hergert (’69 MFA), 79, July 6, 2009, Spokane.

1970s
David G. Fielder (’70 Comm.), 61, August 16, 2009, Vancouver.
James Bruce King II (’73 Comm.), 58, October 11, 2009, Amboy.
Reed Douglas Martin x73, 54, August 26, 2009, Portland, Oregon.


Gloria Jo Allard (’76 Nursing), 55, November 18, 2009, Renton.

Martin Kallestad x’76, 51, October 16, 2009, Spokane.


1980s
Jon D. Swanzy (’82 Forestry), 50, June 20, 2009, Olympia.

Aaron Haskins (’83 Bus.), 49, October 25, 2009, Kirkland.


1990s
Steven B. Gross (’97 DVM), 45, December 12, 2009, Salt Lake City, Utah.

2000s
Kasey Nicole Skaggs x’09, 22, June 5, 2009, Spokane.

Faculty & Staff
Margaret T. Crandall, retired staff, 91, October 1, 2009, Pullman.

Clarence Briggs Harston, former soils faculty, 97, September 30, 2009, Albion.

Yoshikiyo Kimura, former WSU Puyallup staff, 85, September 27, 2009, Tacoma.

Arden E. Literal, retired staff, 82, October 24, 2009, Moscow, Idaho.

Leon D. Luck, former civil engineering faculty, 88, September 27, 2009, Spokane.

Robert Luedeking, former chemical engineering faculty, 85, October 6, 2009, Pullman.

Letha Ellen Merry, former food services staff, 92, August 3, 2009, Pullman.

Tyre A. Newton, professor emeritus mathematics, 87, June 16, 2009, Graham.

Daniel R. “Don” Peterson, former dairy staff, 89, July 28, 2009, Pullman.

Kathleen Elizabeth Sain, former library technician, 58, August 4, 2009, Pullman.

Patricia Schaible, former staff, 55, August 11, 2009, Pullman.

Valerie Kae Schaible, former staff, 57, October 9, 2009, Moscow.

Steve W. Spencer, facilities staff, 60, December 1, 2009, Pullman.

of trekking to Pullman, though, he earned his agriculture degree online through the Distance Degree Program. Since the program was already well-known and respected, “I didn’t have to worry about it being a diploma mill.”

He relishes his role of chief gardener and of following English’s footsteps. “It’s kind of special when I tell visitors that Carl S. English was also a Wazzu alum,” he says. “We started out with a Coug and now we have a Coug running it.”

Share WSU
Send a child to Pullman for an academic camp in July. Space fills fast. Registration opens December.

www.cougarquest.wsu.edu
revivals, finally settling in Los Angeles in 1919 to establish her Foursquare Church. Her dynamic presentations and gift for spectacle led to the construction of Angelus Temple, a massive monument visited by her faithful, as well as tourists and a parade of famous people in the 1920s and ’30s. She followed up with publications and a radio station to broadcast her sermons and other programming through California and the West.

“Sister Aimee” became famous for her elaborately produced illustrated sermons that rivaled vaudeville and the burgeoning movie industry—the spectacles included airplanes crashing on stage, live animals, and a police motorcycle. McPherson also received acclaim for her community service work with soup kitchens, the homeless, and aid organizations throughout Los Angeles.

She deftly used journalists to promote her views and build her fame, while fostering cordial relations with powerful politicians and civic leaders. Part of McPherson’s fame came from tackling high-profile causes, such as the battle over teaching evolution in schools. McPherson welcomed William Jennings Bryan as a speaker at Angelus Temple and used her extensive media network to blast proponents of evolution.

As Sutton writes, McPherson also fused politics with evangelical Christianity after a period of separation of religious beliefs from affairs of state, to the consternation of other evangelicals. McPherson took a prominent role in the 1928 California gubernatorial race between Frank Merriam and Upton Sinclair, which McPherson felt showcased an apocalyptic battle for America against Communism and secularism. Her support for Merriam likely aided Sinclair’s defeat, and Sutton points out her influence on political activism among later evangelicals from Pat Robertson to Rick Warren.

McPherson faced a lot of criticism for her showy displays and personal foibles, a fact not lost on Sutton. Many, including rival preachers, felt she was a charlatan and opportunist with questionable morals. Sutton portrays McPherson’s real and rumored scandals and peccadilloes without losing sight of McPherson’s contributions to the rise of evangelical influence in America, and incidentally to the women’s rights movement.

To Sutton, McPherson’s influence extended well past her death by barbiturate overdose in 1944. As Sutton writes, “she had ushered Pentecostalism into the mainstream of American culture... Her efforts to graft old-time religion onto American culture transformed conservative Protestantism, while her defiance of traditional gender norms broke new ground for women.”
In her latest book, historian Shanna Stevenson examines both Washington's history and the effect of Washington's women winning the vote on the national effort to pass the 19th Amendment. As coordinator of the Women's History Consortium, Stevenson is a key member of the state's efforts to recognize the centennial. This book coordinates with a centennial. This book examines both women winning the vote, though. It goes on to examine the effect and accomplishmenws throughout the state's history, right up to today. Women's Votes, Women's Voices will be a valuable teaching tool, as well as of interest to anyone wanting to know more of our state's history.

Libera by Marco Bittelli, '98 MS, '01 PhD PACIFIC COAST JAZZ, 2009 :: Review by Eric Sorensen :: Some things you expect to find on the Palouse: tractors, football fans, a sifting of laboratories probing the molecular basis of life and the reaches of space. The rural alchemy of agriculture and academia would seem less likely to nurture the great urban art form of jazz, but somehow it does. Several nights a week, you can wander into a club like Rico's and find three or four or five people whistling away at the American songbook. Up the hill, student and faculty players in the WSU Jazz Studies Program take cuts at the genre in classes, assorted ensembles, and recordings.

Throw a certain Italian soil scientist into the mix and things can really cook. Such is the case in "Libera," a CD on the Pacific Coast Jazz label featuring Marco Bittelli (2001, PhD). A researcher at the University of Bologna, Bittelli wrote all nine tunes on the recording, drawing inspiration from sources that range from his children running naked around the house ("Nudo"), the Henry Miller novel Nexus, John Coltrane’s “Giant Steps,” and the Palouse wind ("Vento sulla Palouse"). His musical vita includes study with Joe Pass, jazz guitar virtuoso di tutti virtuosi, and there are times you can hear him sharing a fondness for the fretboard’s full range of bass, melody, and harmony.

Joining Bittelli in various combinations is a host of WSU players past and present. On sax and a particularly fine flute is Horace Alexander Young (1983, Master's), whose extensive collaborations include BB King, Abdullah Ibrahim and McCoy Tyner, as well as several years in a local duo with Bittelli. Other musicians on the CD include composer and pianist Charles Argersinger (retired from WSU in 2009), drummer and associate professor David Jarvis, bassist and instructor F. David Snider, and cellist and assistant professor Ruth Boden. Together they've turned out a rich, varied and nuanced set of Mediterranean-flavored compositions.

new & noteworthy
The Helga Pictures by Linda Kittell PECAN GROVE PRESS, SAN ANTONIO, 2008 :: In her suite of poems based on the creation and experience of Andrew Wyeth’s Helga series of paintings, Washington State University English professor Linda Kittell takes on the voices of Wyeth, his model Helga Testorf, Wyeth’s wife Betsy, and the author herself. The verses speak to spiritual and sexual dimensions of making and viewing art, and to the relationships between artist, model, and the world. Kittell interprets more than the paintings, with poems that capture the creative process, such as “...I waited/and made sketches in pencil, wanting her/to step through my doorway, her quiet manner/to light the room...”.

A Special Place Called “Moholo” by Kim Nicholas ’79, DVM ‘85 BOOKSURGE PUBLISHING, 2009 :: A children’s book illustrated with the veterinarian Kim Nicholas’s photographs, which he collected while volunteering at the Moholoholo Wildlife Rehabilitation Center in South Africa. Proceeds from the self-published book go to support the wildlife center.

the Union to allow women to vote, Washington’s landmark was more than a half-century in the making. In fact, in 1883, when Washington was a territory, woman did win the right to vote. Then, just five years later, the right was revoked and they had to campaign all over again.

Peppered with snapshots, illustrations, and stories both before and after the state opened to women’s votes, Women’s Votes, Women’s Voices is rich with detail and entertaining to peruse. It also provides profiles of such women leaders as Spokane’s May Arkwright Hutton, a silver mine millionaire who became an advocate for labor, women’s voting rights, and orphans, and her west-side counterpart Emma Smith DeVoe, a Puget Sound activist who helped bring the national women’s caucus to Washington in 1910.

The book doesn’t stop with women winning the right to vote, though. It goes on to examine the effect and accomplishments of women throughout the state’s history, right up to today. Women’s Votes, Women’s Voices will be a valuable teaching tool, as well as of interest to anyone wanting to know more of our state’s history.

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North Cascades Highway: Near Washington Pass

by Tim Steury :: Although the native people crossed the North Cascades on foot for thousands of years, white settlers dreamed of a more readily traveled northern route. The Washington legislature committed its first funding for such a route in 1893, based on hopes that such a road would lead to “vast deposits” of gold and silver. Unfortunately, those riches were as elusive as the road itself. So rugged was this northern route that it would be decades before a possible route would even be chosen. When Lyndon Johnson passed legislation in 1968 authorizing the North Cascades National Park, hopes for the road shifted from hauling out high-value timber to hauling in high-value tourists. Finally, in 1972, the route was completed over Washington Pass. The result, State Highway 20, is one of the most extraordinary drives in the world. The 87-mile drive from Winthrop to Marblemount passes through an incredible landscape and ecological transition, from sagebrush and desert to lush semi-rain forest. It is impossible to drive the highway in haste. In fact, signs should be posted at frequent intervals: Warning! Distracting Views Ahead. Be Prepared to Stop Often.

More photos of the North Cascades are available at wsm.wsu.edu.
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