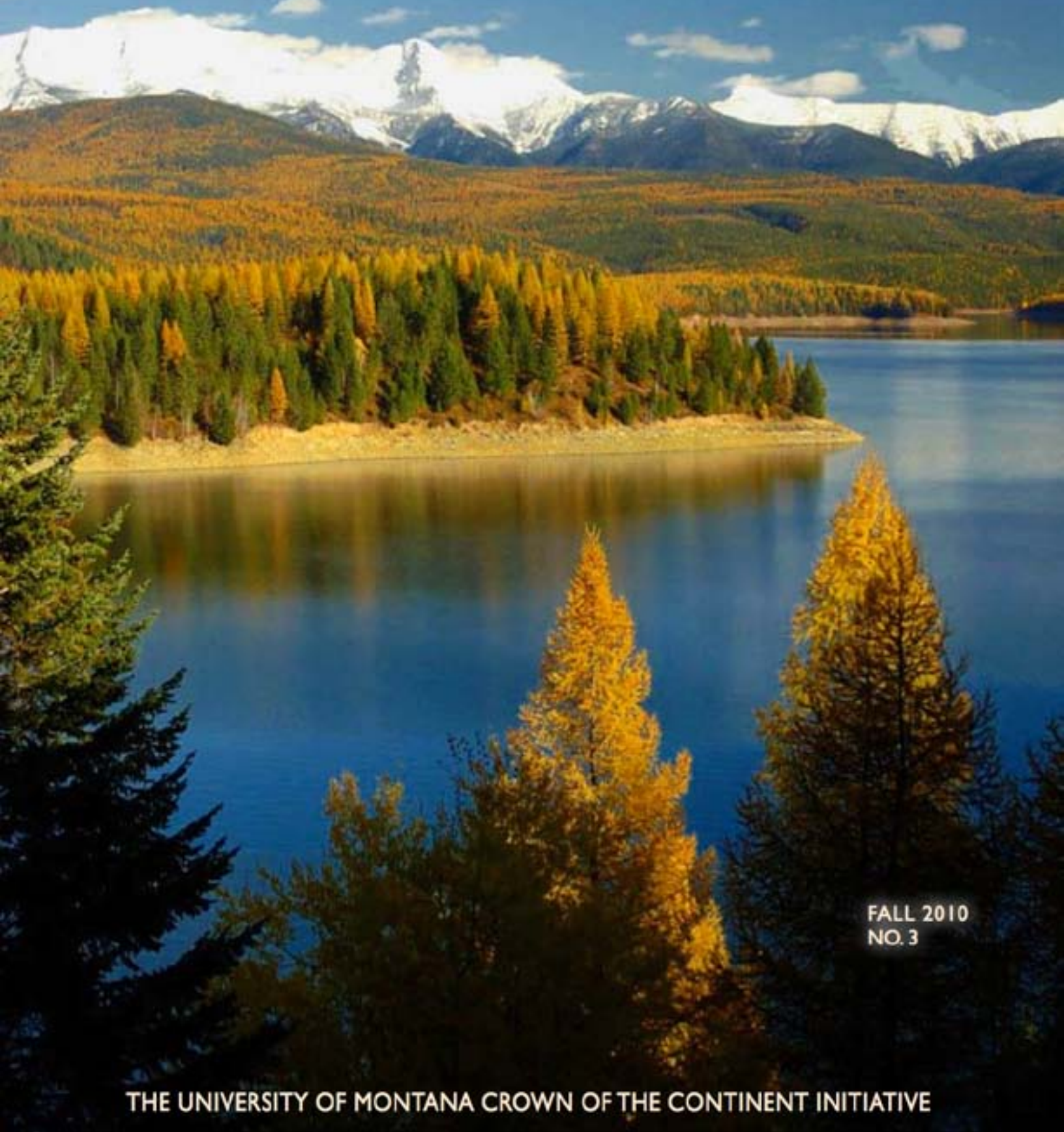


# CROWN OF THE CONTINENT

MAGAZINE



FALL 2010  
NO. 3

THE UNIVERSITY OF MONTANA CROWN OF THE CONTINENT INITIATIVE

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ISSUE 4 - FALL 2010

CROWN OF THE CONTINENT  
MAGAZINE

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THE UNIVERSITY OF MONTANA  
CROWN OF THE CONTINENT  
INITIATIVE

Department of Geography --  
Old Journalism Building  
The University of Montana  
Missoula, Montana 59812

Faculty and students from  
many University of Montana  
departments contribute to the  
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overall efforts, including  
this publication.

**Rick Graetz** - Initiative  
Co-Director, Geography faculty

**Jerry Fetz** - initiative  
Co-Director, Professor and  
Dean emeritus, College of  
Arts and Sciences

**Keith Graham** - Art Director,  
School of Journalism faculty

**Kait Perrodin**- Designer

**Joe Veltkamp** - Web Designer,  
Economics and Media Arts Student,  
Spectral Fusion

**Susie Graetz** - Editorial Consultant,  
International Programs

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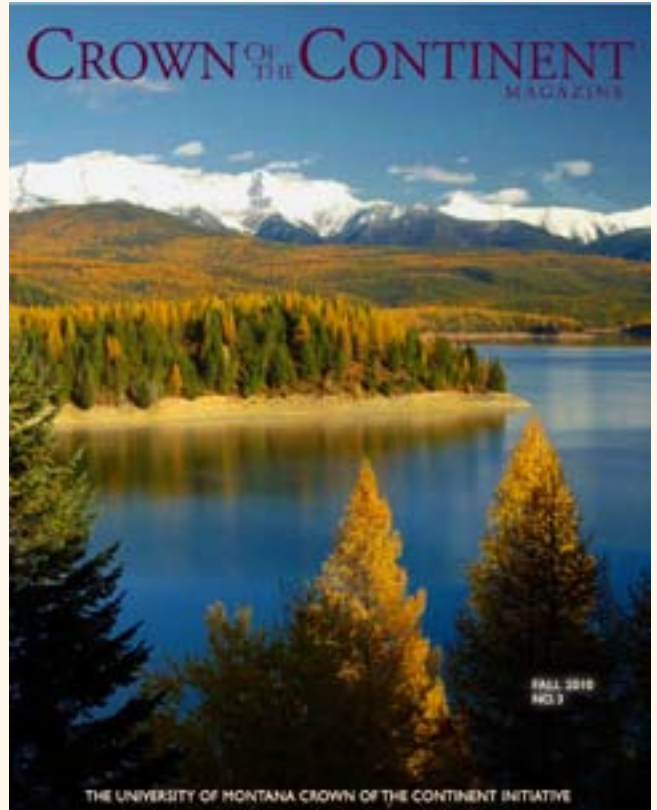
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*Hungry Horse Lake  
looking into the  
Great Bear Wilderness  
in Great Northern  
Montana.*

*Cover photo by  
Rick and Susie  
Graetz*

CONTACT US AT:

**UMCROWN**

@umontana.edu

# DEAN'S MESSAGE



For several decades now, we in higher education have been talking about the importance of studying issues simultaneously from several different perspectives. This is called “multidisciplinary scholarship.” The Crown of the

Continent Initiative has announced its identity within the pages of this e-magazine as a decidedly multidisciplinary venture. In each of the issues there are reports on the physical and biological environment, history, politics, education, and personal reflections. I mention these academic areas of concern first, because some of the photography is so stunning that you might be tempted to believe that the magazine is mostly intended to convey the natural beauty of the Crown.

At the University of Montana we strive to merge a strong educational experience for students with the search for new knowledge that will benefit the State of Montana and the planet. We seek to integrate a humanistic perspective with a scientific world view. The Crown Initiative allows students to see what an important issue we face — in this case appreciating and preserving one of North America’s great natural treasures — requires a truly multidisciplinary approach.

The academy is very good at analysis of problems — it is what we do for a living. What we are less good at is translating analysis into action — that is not really the business of the academy alone, but it requires partnerships

with organizations and citizens outside the academy. The Crown initiative seems like the ideal platform for this sort of interaction — you might want to call it “transdisciplinary.” In this mode scholars in higher education work with educators in the K-12 system, community organizations, and interested citizens to engage in responsible activism. You can see before your eyes the interaction of narrative with stunning visual evidence, of scientific fact with political strategic thinking, and of history with vital concern for the future.

I hope readers of this wonderful publication will reflect on the importance of studying the Crown of the Continent, appreciating it, and helping to move forward with programs that will preserve its value in every sense of that word. To assist in this venture, allow yourself to transcend your discipline, or local community perspective. By all means, please share this issue with as many friends and neighbors as you can. The future of the Crown is at stake.

Christopher Comer  
Dean, UM College of Arts & Sciences

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*“ You can see before your eyes the interaction of narrative with stunning visual evidence, of scientific fact with political strategic thinking, and of history with vital concern for the future. ”*

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# DIRECTORS'

**W**e are pleased to present another issue of our UM Crown E-Magazine. Now in our second full year of this Initiative, we continue to be impressed and energized by all of the exciting and important work taking place within and about the Crown: scientific, scholarly, artistic, educational, and conservation work. As we get to know an ever increasing number of individuals, institutions, organizations, and agencies on both sides of the U.S.-Canadian border in this incredible ecosystem we share and care about, our goal of bringing to our readers information, special features, photos, and a sense of the wide range, quality, and excitement emanating from all their work seems increasingly important.

As we announced in the most recent issue of the Crown E-Notes, we have decided to alter our initial plan of publishing two issues of the E-Magazine and two issues of the shorter E-Notes each year in favor of publishing from here on three issues of the E-Magazine. Consequently, you can now expect to see two additional issues of the UM Crown E-Magazine between now and next summer. Everything we undertake is a collaborative effort, made possible by a wealth of supporters and collaborators. Once again, we want to thank our many supporters here on the UM campus and off, individuals and organizations who provide financial, administrative, or technical support, along with those who share their research, scholarship, creative, and conservation work with us and our readers. Our readers will find in this issue what we hope is an exciting and informative sampling of the latter. For the former we especially want to thank the Offices of the President and the Provost of the University of Montana, as well as the College of Arts and Sciences and the School of Journalism, and the individual administrators who lead those colleges. In this issue we are pleased to bring a comment about the Crown Initiative by Dean Christopher Comer, College of Arts and Sciences, who articulates from his perspective some of the reasons why the University has begun, supports, and expects a great deal from this Initiative. You will also find in this issue a personal take on experiencing one part of the Crown in an interview with Jim Foley, UM's Executive Vice President.

In our continuing attempt to present information about the broad range of significant research being carried out in the Crown and reports on specific projects, we are pleased to publish articles and feature pieces here on Climate Work in Glacier National Park (Dan Fagre), on the History of the Creation of the Scapegoat Wilderness (Rick and Susie Graetz), as well as an article that originally appeared in *The Missoulian* on Research in Glacier National Park. We are also including more marvelous photos of the Crown, featuring in this issue the remarkable photographic work of Rick Reese. Readers will also find a section of historic photos of the Crown drawn from the archives of UM and Glacier National Park. To round out this issue, we hope our readers will also enjoy and benefit from additional pieces on Flathead Lake Lodge, on the Crown Learning Center at Glacier National Park, on

# MESSAGE

Crown Place Names, and, for our regular Book Recommendation section, a piece on Larry Len Peterson's outstanding, large format book, *The Call of the Mountains. The Artists of Glacier National Park*. Finally, we are very excited to share with our readers an important piece about the Crown Roundtable, sponsored by UM<sup>1</sup>'s Center for Natural Resources & Environmental Policy, the Lincoln Institute, and the Sonoran Institute. Readers will learn about the Roundtable and therecent conference it sponsored in late September in Water-ton Lakes National Park, which we were able to participate in and learn much from. As Co-Directors of the UM Crown of the Continent Initiative, we are pleased and very excited about the new collaboration between us and this Center, directed by Matthew McKinney. Our collaboration will provide better coordination of all UM efforts and activities focusing on the Crown and greater opportunities for members of the UM campus as well as col-leagues at all of our combined partner institutions and organizations.

Our Crown Website will play a greater role in publicizing all of the great Crown work on campus and beyond. We invite you to check out that Website at [www.umcrown.edu](http://www.umcrown.edu) <<http://www.crown.edu/>> And welcome to Issue # 3 of the *Crown of the Continent E-Mag-azine*. We hope you enjoy it.

Jerry Fetz and Rick Graetz, Co-Directors

## AS WE CONTINUE THIS WORK, WE DO ASK FOR YOUR HELP.

We bring this E-Magazine and other publications to you free of charge. Yet, we certainly won't reject any donations as large or small as you might consider sending our way to support this important initiative.

**\$5, \$10, \$25 or whatever amount you find you can afford will be put to good use as we seek to expand our collaborative efforts.**

You may send donations to  
University of Montana Foundation  
Brantley Hall, Missoula, MT 59812, USA,  
with a notion of "Crown of the Continent Initiative" on your checks.

# PRESIDENT'S PROGRAM

The Co-Directors of The Crown of the Continent Initiative felt the following words, excerpted from a campus-wide message from UM's new president, would be of interest to our readers. And while this initial communiqué was sent to the university community, the program is meant to be available to everyone. The link to an on-going series of three to five minute weekly messages is listed at the end of this notice.

Dear Colleagues,

It is a lifetime honor to serve as the seventeenth President of The University of Montana.

Communication will be a cornerstone of our progress, so here are some of the communications mechanisms we will be putting in place. Each Friday, beginning on October 22, 2010, we will post a short video message on my home page. These 3-5 minute segments will focus on issues before us, or on examples of our collective accomplishments.

On the Missoula campus, we will establish the University Council, a group that will meet bi-weekly to promote communication and to exchange thoughts on issues and opportunities. The Council will not be a policy-making body, but is intended to support our strong tradition of shared governance through communication. Therefore, it will include representation from the students, faculty, staff, administration, and community, and the meetings will be open.

On some occasions, meetings of the University Council will be combined with "tutorials" on various aspects of the University, such as budget, policies, or special opportunities.

A few times each semester, I will host "The President's Classroom," inviting a group of people to learn with me from one or more of our faculty members. I will ask a faculty member to provide a Saturday morning, casual classroom with coffee and rolls, to a group of approximately 30 people from on- and off-campus. There is an endless list of interesting topics!

We have considerable work to do in these upcoming years. Together, we will address challenges and experience great rewards.

Royce Engstrom  
President, The University of Montana

The President's Update video series is available for viewing on the Office of the President Web site <http://www.umt.edu/president/videos/default.aspx> <<http://www.umt.edu/president/videos/default.aspx>> and on the official UM YouTube channel <http://www.youtube.com/UniversityOfMontana> <<http://www.youtube.com/UniversityOfMontana>> .

# STUDENT DESIGNERS

*These Crown of the Continent E-Magazines and Notes provide University of Montana students not only with an opportunity to see their work in print, but to have it reach a real-life audience. To accomplish this, we appreciate the cooperation received from the University's School of Journalism through Dean Peggy Kuhr and professors Keith Graham and Henrietta Lowisch. The layout and design of these publications is the sole product of students with considerable talents. Professionals in the world beyond academia have praised their work. Ashley Zuelke designed the first four publications and Kait Perrodin has taken over putting her skills to work.*

**A**shley Zuelke comes from a family of Helena artists but decided to pursue degrees in journalism and international relations at the University of Montana. Publication design became her passion at the School of Journalism, and she went on to design for the Crown of the Continent Initiative, Native News Project and University Relations. After graduating in 2009, she became an intern for the economic officers at the U.S. Embassy in Paris and later worked as an associate for the international trade staff of the Senate Finance Committee. Ashley currently works in the legislative liaison office at the U.S. Department of Commerce and serves as a general ambassador for all things Montana.



**K**ait Perrodin is from Havre, Montana, and came to the University of Montana to become a writer. After her first year at school she discovered a true passion for photography and design and entered the School of Journalism to pursue them. Kait is the current Crown of the Continent designer for the 2010-2011 school calendar

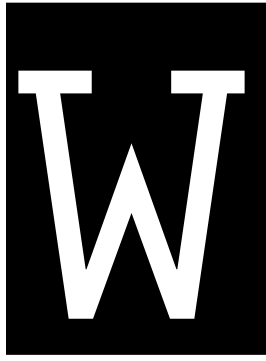
and will be designing for the School of Journalism Native News Project. Kait will graduate spring 2011 with a degree in photojournalism, a degree in creative writing and a minor in Spanish. After graduation Kait plans to join the Peace Corps and, once she is done, spend the next several years living dirt poor and traveling the world.





The  
Scapegoat  
Story





When any swath of land enters the National Wilderness Preservation system it is cause for celebration. On August 20, 1972, the U.S. Congress passed Public Law 92-395, and Montana's Scapegoat north of Lincoln gained this lofty designation. Now is a time to take a look back with great pride, for the Scapegoat is a special case. This is a citizen's Wilderness, and it became reality in the face of stiff U.S. Forest Service opposition. The protection gained was the result of immense public outcry and involvement. Voices from both sides of the political aisle lined up to support it.

The struggle is a colorful and heart warming story. If it hadn't played out, the nation would have lost forever a cherished piece of her heritage.

When compared to other Montana wilderness topography, the Scapegoat doesn't quite stack up as high on the majestic scenery scale as it features only one geologic masterpiece. Simply put, it is a pleasing wilderness, providing easy access and a wonderful wild country experience. Well before it garnered national attention, generations of folks from Lincoln, Helena, Great Falls, Missoula and other nearby communities found enjoyment and solitude in what was known to all as the Lincoln Backcountry.

The original Lincoln Backcountry was a 75,000-acre stretch of undeveloped lands administered by the Helena National Forest. The boundary reached south to within 12 miles of Lincoln and on the north touched the fabled Bob Marshall Wilderness. The 240,000-acre designated Wilderness of today sprawls over an area straddling the Continental Divide and reaching out to the inner segments of the southern Rocky Mountain Front. A landscape designated on its own as a wilderness, it is part of the greater Bob Marshall country consisting of the Scapegoat, Bob Marshall and Great Bear wilderness areas. This, the crown jewel of America's wild assets, contains 1.5 million priceless acres of protected mountains, meadows and forests and almost one million acres of surrounding de facto wilderness.

Scapegoat's dominant feature and the destination of most foot and horse travelers is its namesake, Scapegoat Mountain, a 9,204-foot-tall limestone reef. The peak itself is merely a bump on a magnificent three-

mile-long massif that is honeycombed with caves. The reef's walls are sheer on almost all sides with access to the plateau restricted through the Green Fork drainage on the east and a few places on the west side.

This somewhat level strip then rises on the north end to 9,079-foot Flint Mountain, the northern tip of the Scapegoat formation.

On the Green Fork side, a stream pours out of the wall like a faucet. The cave behind it is reported to be about two miles long.

Half Moon Park, a beautiful place to camp, is immediately below the north and east side of Scapegoat Mountain. Here, an old burn has opened up views to the east. A great experience is to be snug in your tent when a summer storm passes through. The thunder is amplified as it ricochets off the more than 1,000-foot-high walls of the amphitheater, creating a booming, high volume percussion symphony.

Access to the Scapegoat is usually from the east by way of Elk Pass, the Dearborn River, Smith Creek or the Benchmark area. From the south and west side, approaches to the mountain and plateau are from the Danaher, the North Fork of the Blackfoot River and Lincoln. The Dobroda Creek headwater area, reached by trail from the North Fork of the Blackfoot Valley, offers one of the better ways to climb Scapegoat from the west. The same route also passes Tobacco Valley and McDonald Meadow, two scenic places south of the Southern end of Scapegoat Mountain. A 1988 forest fire opened up much of this country.

Day walkers, horseback riders and weekend backpackers favor 9,414-foot Red Mountain, the highest summit in the Scapegoat and in the Bob Marshall country, and Heart Lake on its north side. The trailhead is reached by a road up Landers Fork, a tributary of the Blackfoot River east of Lincoln. Caribou Peak and Big Horn Lake, on the Continental Divide, are two other prominent Scapegoat landmarks. Several trails approach the peak and lake. One up the West Fork of Falls Creek on the Rocky Mountain Front is the most commonly used path.

A scramble up 8,401-foot Crown Mountain on the Rocky Mountain Front off of the Benchmark Road out of Augusta is rewarded by a great view of almost the entire bulk of Scapegoat Mountain and a good portion of the wilderness.

Three important waterways are born in the Scapegoat. Just south of the "summit bump" of Scapegoat Mountain, a spring gurgles out of the plateau's porous limestone and commences the Dearborn River. The Sun



River gathers its initial waters from the northeast side of Flint Mountain. Below the southern perimeter of the Scapegoat wall, Dobroda and Cooney creeks join to send the North Fork of the Blackfoot on its way to connect with the main river in the Blackfoot Valley. According to Cecil Garland, “patron saint” of the Scapegoat, the prairie and Rocky Mountain Front around Augusta were at one time almost overrun with sheep. And it was the shepherders who summered their herds in these mountains who named almost everything in the area, including Scapegoat Mountain. Over the years, the small town of Lincoln became known as a base of operations for commercial packers and guides and an entry into the Lincoln Backcountry and Bob Marshall Wilderness. By word and deed, the regional and national reputations of the outfitters grew, and so did that of the land they worked in.

In the late 1950s, as both the Lincoln District Ranger and the Supervisor of the Helena National Forest, two enthusiastic users and stewards of the Backcountry who had both been on the job for nearly 20 years, prepared to retire, new plans were being laid in the Forest Service Regional Office in Missoula to develop a system of roads that would open this special landscape to timber harvesting and campground construction. One could say the “custodial” era was ending and the “management” period was about to start. In response to this threat, the Lincoln Backcountry Protection Association was formed. Cecil Garland, a hardware and sporting goods store owner in Lincoln, became the association’s president in 1962. Garland

had worked for summers as a campground foreman for the Forest Service, resigning when he realized he could not pursue his goals from within the agency. It was Cecil who would be primarily responsible for the Scapegoat Wilderness Act of 1972.

Garland remembers his reaction to the possible implementation of the development plan “A young Forest Service engineer came into our store in Lincoln and told me the USFS had abandoned a full survey of the road to the Lincoln Back Country and was now running only a flag line in their haste to build the road and quell the opposition. This young engineer in despair also told me that a bulldozer was sitting at the end of the road.

“I knew that time was short and called Congressman Jim Battin ... I poured out my heart to him in a most pleading and earnest manner. He must have understood for he said he would help me ... Battin then phoned Regional Forester Boyd Rasmussen and asked if he could have ten days to see what was going on up at Lincoln. Mr. Rasmussen replied no, the bulldozer was ready to go. Whereupon Congressman Battin told the Regional Forester that, ‘By God, we had better have ten days.’ At this time I believe the tide turned in our favor.” On April 19, 1963, some 300 people jammed into the small Community Hall in Lincoln to hear the Helena Forest Supervisor discuss the plan. Ground rules were set; supporters and opponents were to alternate and there would be no voice vote at the end of the meeting. Opponents of the development plan felt they had been “gagged,” and a “near riot” took place. The level of bitterness began to increase dramatically. The association’s membership grew and it soon received the

backing of the Montana Wilderness Association, the Wilderness Society and the Montana Fish and Game Department. Senator Lee Metcalf wrote the Forest Service asking it to delay the project. During the next several months, the Forest Service received no letters supporting its plan. The timber industry had expressed initial approval of the timber harvesting, but was heard from less and less as the controversy grew.

Cliff Merritt, the western regional representative of the Wilderness Society, used the Backcountry as a boy and when he saw a Forest Service road stake in his family's camping area he came to the sudden "violent"

very sound," but that it was open to question on several points, he pointed out that the agency did not have a complete timber inventory of the area, that some timber of marginal quality had been sold, leaving an occasional "mess" behind, that neighboring National Forests were not fully coordinating their plans with Helena's and that the presently developed campgrounds around Lincoln were not being fully used. Morgan counseled the Regional Office that the Forest Service could probably win the Backcountry battle if it were willing to go all out, but in the process it would pay a severe public relations price, which might jeopardize some of its other programs in



conclusion that they "would build a road there over my dead body." Merritt was a principal in the effort to get statutory protection for the area.

The new Forest Supervisor of the Helena National Forest, Robert Morgan, after looking over the situation, decided to postpone the development until "absolutely necessary." In January 1964, in a tactfully written memo, Morgan told his superiors that although there was some passive support for the Forest Service's plan, "we will get no active support from the man on the street." Stating the plan was "basically

Montana.

This "compromise attitude" was not well received in the Regional Office that wanted to begin road construction as soon as possible. Over the next few years, Morgan heard some rough words from his superiors, who questioned his loyalty and felt he had caved in to local demands. When the Lincoln Backcountry Protection Association met in February 1964, Cecil Garland convinced its members that because they could not get the Forest Service to commit to a 10-year moratorium on the road building, the goal of their

organization needed to be changed. Garland advocated calling for a wilderness designation for the area and that the wilderness be expanded to 200,000 acres to take in the Scapegoat Mountain region, which adjoined the Bob Marshall Wilderness.

In April 1965, Democratic Senators Lee Metcalf and Mike Mansfield introduced a bill to protect 75,000 acres of the Backcountry under the Wilderness Act. Montana conservationists approached Republican Congressman Jim Battin and told him about the Metcalf-Mansfield bill and that there were more acres that could be included. Cliff Merritt remembers, "Big Jim had his feet on a desk and when he heard this, they came down fast ... Jim saw this as an opportunity to leapfrog members of the other party. "Battin introduced his own bill calling for a 240,500-acre Lincoln-Scapegoat Wilderness. Metcalf and Mansfield, who, Merritt concedes, had not been fully informed about the situation, soon switched their support to the Battin bill.

The Lincoln-Scapegoat bill was the first strictly citizen wilderness proposal made after the passage of the Wilderness Act, which mandated the Forest Service do a study of all their primitive areas for possible inclusion in the Wilderness System. Since it did not involve the expansion of a primitive area, the Lincoln-Scapegoat proposal was not explicitly covered by the study and review procedures of the Wilderness Act. The unique, potentially precedent-setting nature of the bill was one of the main reasons why its passage was delayed until 1972. The Forest Service leadership in Washington was concerned it would unleash similar proposals at a time when its work force was committed to finishing on schedule the primitive area reviews.

Tom Edwards, a former schoolteacher and outfitter in Ovando, was an early member of the Lincoln Backcountry Association; he traveled twice to Washington, DC, to testify before congressional committees and gave this heartfelt eloquent testimony on behalf of the Lincoln-Scapegoat. "Into this land of spiritual strength I have been privileged to guide on horseback literally thousands of people ... I have harvested a self-sustaining natural resource of the forest of vast importance. No one word will suffice to explain this resource, but let us call it the 'hush' of the land. This hush is infinitely more valuable to me than money or my business. "

As Bob Morgan later recalled, the 1968 hearings were "disastrous" for the Forest Service. Pointing to severe erosion caused by road construction in an

area near the Lincoln-Scapegoat, Senator Metcalf testily asked Morgan how the Forest Service "could justify that!" Morgan could only reply, "I can't." Soon after the hearings, the Forest Service published a new plan for a 500,000-acre area, which included the Lincoln-Scapegoat. The plan called for some land to be administratively protected as "backcountry" and for the construction of a 75-mile scenic Continental Divide Highway through the Lincoln-Scapegoat. Local environmentalists were not placated.

The Forest Service was becoming annoyed over an issue, which refused to go away. In early 1969, this frustration moved Regional Forester Neal Rahm to tell a meeting of the agency's leaders that a "backcountry" land category, intermediate between complete wilderness and developed campgrounds, was needed. "We have lost control and leadership in the sphere of Wilderness philosophy. Why? The Forest Service originated the concept in 1920, and practically, has been standing still since about 1937 ... Why should a sporting goods and hardware dealer [Cecil Garland] in Lincoln, Montana, designate the boundaries for the 240,000-acre Lincoln Backcountry addition to the Bob Marshall? ... If lines are to be drawn, we should be drawing them." His remarks were the first indication that the Regional Office was bowing to the inevitability of wilderness designation for the Lincoln-Scapegoat. One month after Rahm's remarks, Chief of the Forest Service Ed Cliff told the Senate Interior Committee that the Forest Service would take another look at the Lincoln-Scapegoat. Plans for development were now permanently on hold.

Cecil Garland relates that Congressman Battin asked him to draw up the boundaries for his wilderness bill. Over a bottle of cheap whiskey, Garland and Forest Servicemen Lloyd Reesman and Bob Brown drew the lines for the future Scapegoat Wilderness.

Two years later, the supervisors of the Helena, Lolo, and Lewis and Clark National Forests drafted a wilderness proposal, based on the boundaries recommended by these three "cartographers", which the Regional Office accepted. The Senate passed the Scapegoat Wilderness bill in 1969 and sent it to the House, where it was accidentally referred to the Agriculture Committee rather than the Interior Committee, thus arousing the ire of Chairman Wayne Aspinall who may have suspected an attempt to circumvent him. When he finally received the bill, Aspinall delayed reporting it out because the US Geological Survey had not conducted a mineral survey of the area as called for by the Wilderness Act.

Cecil Garland recalls how Aspinall was persuaded to support the bill. "I had just left the House Office Building and Congressman Wayne Aspinall, the powerful chairman of the Interior and Insular Affairs Committee, had told me he would 'kill' my bill. I relayed this message to Senator Mike Mansfield who listened quietly and then said, 'Cease, you go back to Montana and tell the folks we'll get the bill passed, that there'll be a wilderness there some day. Some day there will be something that Mr. Aspinall will want, and we'll be there.' We shook hands and I walked with him to the Senate floor where a great fight was being waged over Vietnam.

"Later when Congressman Aspinall became fully committed to the passing of the bill, I asked him why he had decided to help us. His reply was, 'Son, you've got one powerful Senator,' and I knew what he meant. I knew Mike had not forgotten."

In 1972, the Scapegoat Wilderness became the first de facto wilderness to enter the National Wilderness Preservation System. As mentioned earlier, the Forest Service opposed the Lincoln-Scapegoat proposal because it did not want to disrupt its timetable for primitive area reviews. The Regional Office was also concerned that if the Backcountry Association were successful there would be petitions for numerous other de facto wildernesses surrounding the Bob Marshall Wilderness.

Several years after the passage of the Scapegoat

Wilderness bill, Morgan, with the congratulations of the Regional Office, received an award from an environmental group for his part in preserving the Lincoln-Scapegoat area.

For decades the Forest Service had tried to insulate itself from local demands on the national forests in order to carry out its mandate to protect them in the national interest. These pressures usually came from groups that wanted to use them in ways that could have been detrimental to their long-term well-being. Environmental organizations and many in the general public supported the Forest Service when it resisted these demands. In the case of the Lincoln-Scapegoat, local pressure was applied, not to hurt the forest, but to protect it completely. The Forest Service fought this demand in the same way that it would have fought demands to overcut or overgraze the area. The difference was that here the Forest Service was operating without public support.

This conclusion, however, must be qualified. A strongly professional organization, such as the Forest Service, is open to internal debate. Without the dissenting voices of Bob Morgan and the Lincoln District Rangers who served under him, roads would have been built in the Lincoln-Scapegoat long before the Scapegoat Wilderness Act of 1972.

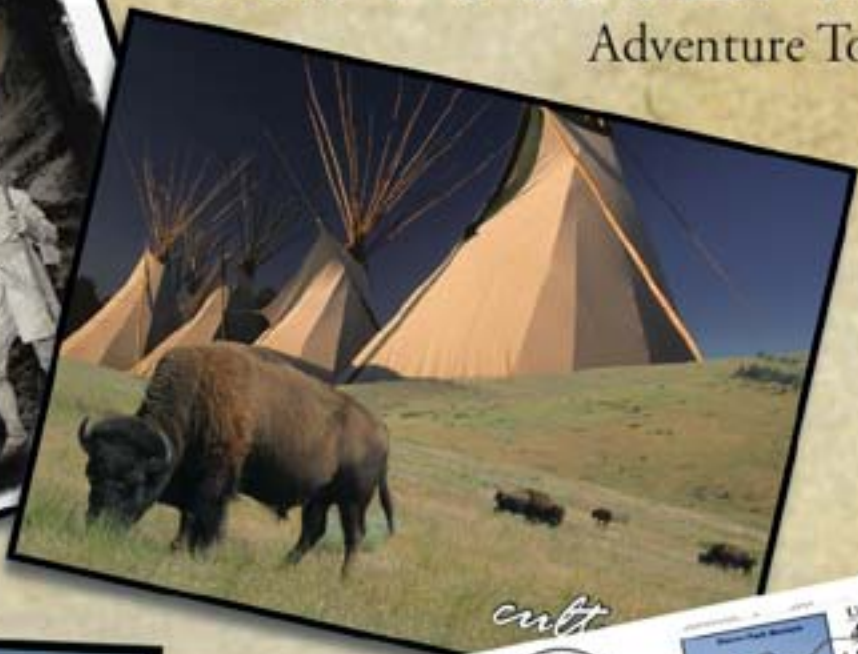


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# CROWN OF THE CONTINENT

Adventure Tour

July 24-30, 2011



July 24-30 2011

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Seats are limited - Register today!



To: Lifelong Learners  
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For more information, visit:  
[montanasummer.umt.edu/crown](http://montanasummer.umt.edu/crown)



# The Crown of the Continent

On its sunrise side, the wave of the Montana prairie abruptly ends, crashing into the soaring walls and reefs of the Rocky Mountain Front, one of the jewels of the fabled Crown of the Continent. The scenery is nothing short of stunning and perhaps one of the finest looking landscapes on the planet. So pack your bag, grab your camera and join us as we take the Crown of the Continent show on the road.

“The Front,” as we like to call it, is a majestic bit of geography that makes up one of the most intact and pristine ecosystems in North America. Thirteen million acres of protected landscape that includes Glacier and Waterton Lakes national parks, the storied Bob Marshall Country, the incomparable Flathead Lake, the serene Blackfoot Valley and the wild North Fork of the Flathead.

For seven days, July 24 through the 30th, 2011, author, photographer and popular University of Montana geography professor Rick Graetz invites you to learn, see and experience the inside story of the Crown of the Continent. Day one is spent on ground that once saw the tipis of the Salish people as they dug for the nutritious and prized camas root – The University of Montana campus. Day two follows what the Native Americans called “The Road to the Buffalo”--the Blackfoot Valley --eventually crossing the Continental Divide over Rogers

Pass where the coldest temperature ever in the lower 48 states was recorded - 70 below zero. At a point where the escarpment of the Northern Rocky Mountains lowers to the rolling prairie lands we will investigate the enormous expanse of the Rocky Mountain Front as we move northward and onward to the country of the Blackfeet Nation. Two days will be spent in Glacier National Park before we turn south and explore the eastern side of the largest freshwater natural lake west of the Mississippi - Flathead Lake. Our trip ends back on campus with a farewell dinner giving everyone a chance to reminisce and celebrate with your fellow travelers.

Just a few of the subjects covered on the adventure tour are:

GUESS WHO'S COMING TO DINNER? – what's eating our forests and can they be saved? A stop at the Lubrecht Experimental Forest Station answers these questions and more.

DAVID VS. GOLIATH - how one of the smallest chapters of The Nature Conservancy (Montana) took on the challenge of raising \$510 million (gulp) to buy 320,000 acres of forestland from Plum Creek Timber Co. - the largest, private conservation land purchase in US history. Much of this land would have been placed on the real estate market and available for development.





# Seven-day Adventure Tour.

Some say a trip into the Bob Marshall is akin to a spiritual experience. Ever since they have lived in its shadow and hunted its ridges, Native Americans have felt a deep connection to and respect for the Bob. The Blackfeet have used the Badger-Two Medicine area for vision quests and for other religious and cultural purposes. Hear the stories and traditions from tribal elders.

**A RIDE ON THE WILD SIDE** – the spectacular Going-to-the-Sun Highway crosses the Continental Divide at Logan Pass and offers visitors a chance to see wildlife up close. Glacier National Park's past, present and future, how climate change is being studied here and the importance of "bear elevators" will be unveiled.

Attend the Dr. Phil Show of the Crown titled... **WE CAN'T GO ON LIVING THIS WAY**. Montanans have long recognized the natural values of the land outside of the protected portion of the Crown. With exceptional habitat and world-renowned hunting, fishing and recreational opportunities, sportsmen, hikers, land managers, ranchers and others have worked for decades to preserve the Crown's legacy. Dusty Crary, a third generation rancher on the Rocky Mountain Front and Doug Averill of Averill's Flathead Lake Lodge, converse about the compromises it takes to make a living within and yet keep the integrity of the Crown alive.

With guest star Mr. Clean, a.k.a. Dr. Jack Stanford of the University of Montana's Yellow Bay Biological Station, we will learn why Flathead Lake's water is good enough to drink, how they plan to keep it that way and the truth about the legendary Flathead Lake monster.

Since the Crown is one of barely a dozen places left on Earth that has not had a single plant or animal extinction in recorded history, The University of Montana is deeply immersed in the study of all it offers. And as a public institution, it is UM's goal to share with the public what we are learning about its wildlife, science, history, geography, ancient and present people and much more.

Summer 2011 will present an opportunity for friends of the university to take part in a voyage of adventure and discovery that circles and explores this unspoiled corner of Montana. Won't you join us?

Article by Susie Graetz for The University of Montana Continuing Education.

Spaces are limited so act now. For more information on the tour and how to get college credits go to: [montana-summer.umd.edu/crown](http://montana-summer.umd.edu/crown)



Glacier Archival Photos.

















Photos in this section are courtesy of the GNP archives.





# NIGHT OF THE GRIZZLIES

BY TRISTAN SCOTT

**C**liff Martinka still recalls the rapping on his cabin door and the ranger's harried voice that August morning in 1967, two weeks after he began a job as Glacier National Park's premier research scientist.

"I remember him knocking on my door at 6 o'clock Sunday morning saying, 'We've got a bear problem. Get your gun,'" said Martinka, who is now retired from the National Park Service and lives in Florida.

The wildlife biologist could not have imagined the gravity of the problem, nor could he have predicted how it would shape his career. Two young women, in campsites miles apart, separated by imposing 9,000-foot Heavens Peak, had been mauled and killed by grizzly bears. They were the first bear-related fatalities since the park's inception in 1910, and the tragedy was etched into history as "Night of the Grizzlies."

As the park's first-ever research scientist, Martinka's charge was, at least initially, straightforward "Shoot the

bears. Pretty simple," he said.

Five grizzly bears were shot and killed in the days that followed, one of which was shown to have killed one of the women. But in the weeks and months to come, park management and the public began to ask a lot of questions about bears and their relationship to Glacier Park.

The inquiries turned up a dearth of information, and the killings would eventually prove to be a bellwether event for bear management in national parks. They also led to Martinka's first research assignment.

"I started to do some work on grizzly bears," Martinka said. "We were trying to piece together what the bear population looked like in those days, without having any technical information except some bear sightings. There was amazingly little work going on with grizzly bears."

"In many respects that night kind of defined my ca-

reer," he said.

The deaths and the subsequent demand for bear research, rudimentary though it was, may have defined the focus of Martinka's early career. But as Glacier Park's first research scientist, he would prefer that his legacy be characterized by the direction he helped steer the nascent program, laying a foundation for future generations of scientists to study and document what was, for much of the park's history, terra incognita.

"When I came on, there just was not very much information," Martinka said. "I don't want to discount some of the research done in the '30s and '40s, but it was pretty darn sketchy. You could go to the park library and dig through some journals, but even the anecdotal evidence was scant."

Martinka fostered the research program through its infancy, encouraging projects that would later be some of Glacier Park's most influential. Among them were Dan Fagre's climate research project, which has shown that rates of warming here are two times the global average; and Kate Kendall's DNA study on grizzly bears, which provided the first reliable data on grizzly populations in Glacier Park and the northern Continental Divide ecosystem. Riley McClelland's research on bald eagles, Frank Singer's work on wolves and resource management, Leo Marnell's aquatic and amphibian studies, and Kim Keating's assessment of bighorn sheep habitat - the discoveries all were born of the incipient science-research program.

"That's the best part. I left and the program just carried on," Martinka said.

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The history of Glacier National Park viewed through the prism of research is a rich one indeed. Since before the park's formation, researchers have flocked here to explore a mountain ecosystem that to this day remains relatively pristine and intact, and is home to some of the rarest and most unique species on the planet. Beginning in the 1950s, they sought permits and

assembled teams to explore the park's most iconic wildlife species - grizzly bears, mountain goat, bighorn sheep and wolverine - and the results of those studies would have significant policy implications for Glacier and national parks in general.

But even before the permit system was in place, and prior to development of the park before that, scientists were making discoveries in the wilds of Glacier Park. Those early researchers documented their findings to provide the first index of more than 1,000 different species of plants and hundreds of species of animals spread out across 1 million acres of wilderness.

"A lot of what we know about the park is based on the really early stuff," said David Benson, a biology professor at Marian University in Indianapolis, Ind. Benson has spent the last 16 summers as a naturalist in Glacier Park while also performing field research on the white-tailed ptarmigan.

"If you've ever picked up an old field guide and wondered how people knew what to put in it, it's based on this really early research from before the park was even established," he said.

In 1900, for example, James Blake published "Some new N. American Mosses" in the *Botanical Gazette*, attributing several of the findings to Glacier Park. Four years later, T.J. Fitzpatrick documented a few of the park's unique fern species in "The Fern Flora of Montana." And in 1949, Forrest Luthy and Fred Zwickel from the Montana State University Biological Station followed moose around in rubber rafts, scouring pond bottoms to find out what the animals were noshing so intently with their submerged muzzles. They documented what they learned (they were snacking on pond lilies) in "Summer Food Habits of the Moose in Glacier National Park."

The "Please Don't Feed the Sheep" signs near Many Glacier? That common-sense caveat has a history dating back more than 80 years, when 26 bighorn sheep inexplicably died at Many Glacier; 10 years later, another two dozen animals were dead in the same area.

Puzzled by the deaths, a researcher with Montana's Livestock Sanitation Board began investigating the cause, and by 1938 he had an answer.

The researcher, Hadleigh Marsh, documented his findings in the *Journal of Mammalogy* in a piece entitled "Pneumonia in Rocky Mountain Big Horn Sheep." The cause of the pneumonia, it turned out, was due to visitors feeding the sheep hay.

The sheep were susceptible to pneumonia due to high levels of lungworm, which lived in a type of snail uncommon in the high-summer grazing ranges, and which couldn't be transmitted in the cold winter ranges. But visitors were drawing the sheep into their winter ranges earlier than normal by laying out hay, creating an ideal habitat for the worm-infested snails, which the sheep then ate.

"The obvious recommendation was to stop feeding the sheep," Benson said. "A lot of this early research led to a less carnival- or petting-zoo type atmosphere. Everyone now knows you're not supposed to feed the wildlife."

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Much of what is now known about the park, and continues to be discovered, is chambered under the auspices of the Crown of the Continent Research Learning Center (CCRLC), which is designed to communicate research and science results in national parks.

Tara Carolin, director of the center, is in charge of administering research permits at Glacier Park, and issues between 50 and 75 of them every year, with projects ranging from long-term studies on the habitats of carnivores to short-term monitoring of insects and micro-bacteria. Carolin says the mission of the CCRLC is to help facilitate scientists with their research, but also to ensure the research helps benefit park management and influence policy.

This past year, research and monitoring has been conducted on wildlife species such as bees, hawk owls, bull trout and wolverines. Other studies have been

conducted on the effects of wildfire, alpine plants and diatom fossils. Cultural artifacts were sought through a process called "ice patch archaeology," which relies on the theory that, as glaciers and icefields recede due to warming, cultural tools, artifacts and organic materials preserved inside will emerge through the erosion process.

"There is an extremely broad range of monitoring going on," Carolin said.

But Glacier National Park has no research arm of its own, and the manner in which the research projects are funded, organized and applied is as complex as the biological sciences they employ.

In 1993, there was a major shift in how research was performed in national parks. Then-Secretary of the Interior Bruce Babbitt decided scientists should be removed from management positions due to a perceived conflict of interest in the objective assessment of scientific data and the management of a park. Glacier lost its research wing, and the park's longtime scientists were transferred to another agency, the National Biological Survey, which eventually morphed into the U.S. Geological Survey Biological Resources Division in 1996.

Unlike some parks, Glacier was fortunate enough to keep its own USGS station, "basically because there were scientists there who didn't want to leave," explained Kathy Tonnessen, a research coordinator for the National Park Service and an adjunct professor at the University of Montana School of Forestry.

Tonnessen has been instrumental in pairing field biologists with research managers at Glacier National Park, mostly through her work with the Rocky Mountain Cooperative Ecosystem Studies Unit, a consortium of academic programs in the Rocky Mountain region, including UM, as well as eight federal agencies. The goal of the network is to provide resource managers with high-quality scientific research and technical assistance, often in the form of doctoral and graduate students.

“Park Service employees don’t tend to have a lot of money to go out and collect samples or study animals themselves,” Tonnesen said. “I help the parks find partners. Someone might call up and say, ‘I have to do some bat research in the park. Who do you know?’ “ Tonnesen said the unit helps organize about 180 research projects a year, with studies ranging in scope from a few hundred dollars to hundreds of thousands of dollars.

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Still, in the last 25 years, much of Glacier National Park’s seminal research has been conducted by former park employees turned USGS scientists, many of them originally hired to work under Cliff Martinka, the original chief research scientist.

“I look at that bunch now, and a lot of them emerged from the program we started in the early ‘70s when we were trying to expand,” Martinka said. “That entire program in Glacier has held on, whereas other research programs at other parks have collapsed and changed.”

In the late 1990s, Kendall’s massive grizzly bear research project analyzed 30,000 hair samples collected using scent lures and natural rub trees. The groundbreaking research allowed Kendall to arrive at a reliable baseline population of 765 grizzly bears in the northern Continental Divide ecosystem.

“There wasn’t a lot of quantitative stuff,” she said of the early research at Glacier Park. “Much of what was published was anecdotal. Early on I did have a small grant for a technician to go through all of the old ranger logs and try to look at historic population levels.” The best documentation Kendall found were sighting rates based on the number of miles backcountry rangers hiked or skied and how many grizzly bears they spotted.

“I find it remarkable that Glacier National Park in particular, as the last stronghold in the ecosystem for grizzly bears, that we never had a population estimate until the work I did in the late ‘90s and 2000,” Kendall

said. “It is surprising but it has been really gratifying to get the support to do that.”

Fagre, the USGS research ecologist, has been able to study mountain ecosystems so thoroughly as to develop a model for climate-induced glacier change in Glacier National Park over a 250-year period, between 1850 and 2100.

“Since its establishment in 1910, Glacier Park has lost most of its glaciers,” Fagre wrote in a 2003 publication. “Over two-thirds of the estimated 150 glaciers existing in 1850 had disappeared by 1980. Furthermore, over that same time period, the surviving glaciers were greatly reduced in area. These events reflect a worldwide pattern of glacial retreat and regional climatic change that, in aggregate, has been viewed as evidence of global warming.”

For more than four decades, Jack Potter, chief of the Division of Science and Resources Management at Glacier Park, has seen researchers make breakthrough discoveries that, big or small, impact the park’s future. Potter worked at the park in 1973, when researchers learned the boardwalk at Logan Pass had been built with wooden planks treated with pentachlorophenol. The chemical preservative was leaching into the groundwater and killing sub-alpine fir trees along the Hidden Lake Trail, and the boardwalk was rebuilt. The ongoing research in fisheries has documented the long-term decline of bull trout, Potter said, and shows how exotic lake trout are continuing to out-compete the native trout species in every way.

“That sort of inventory and monitoring is an ongoing theme of research,” said Potter.

While Martinka’s work at Glacier Park might always be associated with “Night of the Grizzly,” he is satisfied knowing the research program he helped found has continued to gain momentum.

“That is what I’m proudest of,” he said. “If anything is to define my career I’d rather it be that than the ‘Night of the Grizzly.’ “

*Tristian Scott writes for the Missoulian and this story was printed Oct. 31, 2010 under the title Glacier Park has history of scientific discovery.*

promoting  
research in  
the crown

by Will Klaczyński



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**T**he Crown of the Continent has long been considered a living laboratory in which to conduct research concerning climate change, vegetation and wildlife ecology, the role of fire, invasive species, and past and present human use of the land. In order to facilitate, support, and then communicate the results of research projects being performed in Glacier National Park, the National Park Service established the Crown of the Continent Research Learning Center in 2002 as part of its Natural Resource Challenge. Initiated in 1999, the Natural Resource Challenge lists its three main goals as “protecting native species and their habitats, providing leadership for a healthy environment, and connecting parks to protected areas and parks to people.” The CCRLC serves these goals as one of 20 research learning centers across the U.S., 12 of which are funded through the Challenge.

The CCRLC facilitates and supports research by providing permits, housing, laboratory access, field support, and funding in the form of the Jerry O’Neal National Park Service Student Fellowship for graduate students. The Learning Center also operates the George C. Ruhle Library, which is a great resource for any researcher looking for publications relative to his or her work. By communicating the current research efforts and recent results with park staff, managers, educators, and the general public, the CCRLC helps to inform policy decisions concerning the future of the park and its resources. Descriptions of projects, initiatives, results, and suggestions are published in the form of traditional newsletters and bulletins as well as web-based media. Included in these publications are strategies that park management employs to monitor, mitigate, and possibly reverse the detrimental affects of phenomena such as climate change and invasive species introduction. Some of these strategies include monitoring pika populations over time, promoting sustainable transportation for employees, and modifying fishing regulations regarding invasive fish species. These publications also include suggestions to visitors on how to enjoy the park while making as little impact as possible and serve to educate visitors about the natural balance of the ecosystem, especially the importance of fire as a major element in that balance. In addition to these publications, the CCRLC hosts a Brown Bag lecture series throughout the year to highlight re-

search conducted in the parks along with its annual Waterton-Glacier Science and History Day where current research and stories about the Peace Park’s history are shared with the public in a free daylong program.

Another key role of the Learning Center is to promote stewardship and community involvement by providing opportunities for volunteers to collect scientific information and internships for graduate and undergraduate students. Volunteers, also known as “Citizen Scientists,” are critical to the Learning Center’s efforts since each one dedicates time to wildlife and weed observation, adding to an important base of information to work from.

Although based at the headquarters of Glacier National Park, the CCRLC assists research in Waterton-Glacier International Peace Park and throughout the Crown of the Continent Ecosystem as well as the Grant-Kohrs Ranch National Historic Site and the Little Bighorn Battlefield National Monument. The CCRLC also relies on a number of supporters and collaborators, from government agencies to universities, and nonprofit/community organizations including the Glacier National Park Fund, Rocky Mountains Cooperative Ecosystems Studies Unit, Crown of the Continent Ecosystem Education Consortium, and the USGS Northern Rocky Mountain Science Center.

The Crown of the Continent Research Learning Center has been and will continue to be an excellent resource for anyone wishing to conduct research in the Crown of the Continent, volunteer to create a better understanding of the ecosystem, or who is simply just curious about the vegetation, wildlife, history, and future of this remarkable landscape.

*Will Klaczynski is a first-year master’s student in the geography program at the University of Montana. Originally from Maryland, he came to Montana in 2005 and graduated four years later with a B.A. in Geography and with German as a minor. In the last five years, he has traveled extensively across the U.S. and western Europe, visiting all of the Lower 48 along with eight other countries. An avid hiker and photographer, Will has made it his mission to get out and explore the Crown of the Continent as much as possible and is excited to be part of the university’s effort to enhance the knowledge about this unique region of North America.*

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# VIEWS OF



# THE CROWN





**PREVIOUS:** CANOES ON LAKE McDONALD

**ABOVE:** SUNRISE ON PRAY LAKE





**RIGHT:** WEEPING FALLS

**LEFT:** RED ROCK RAPIDS











**PREVIOUS:** WINTER SHORE LINE ON LAKE McDONALD

**ABOVE:** UPPER ST. MARY





MEET THE  
PHOTOGRAPHER

# ERIC REESE



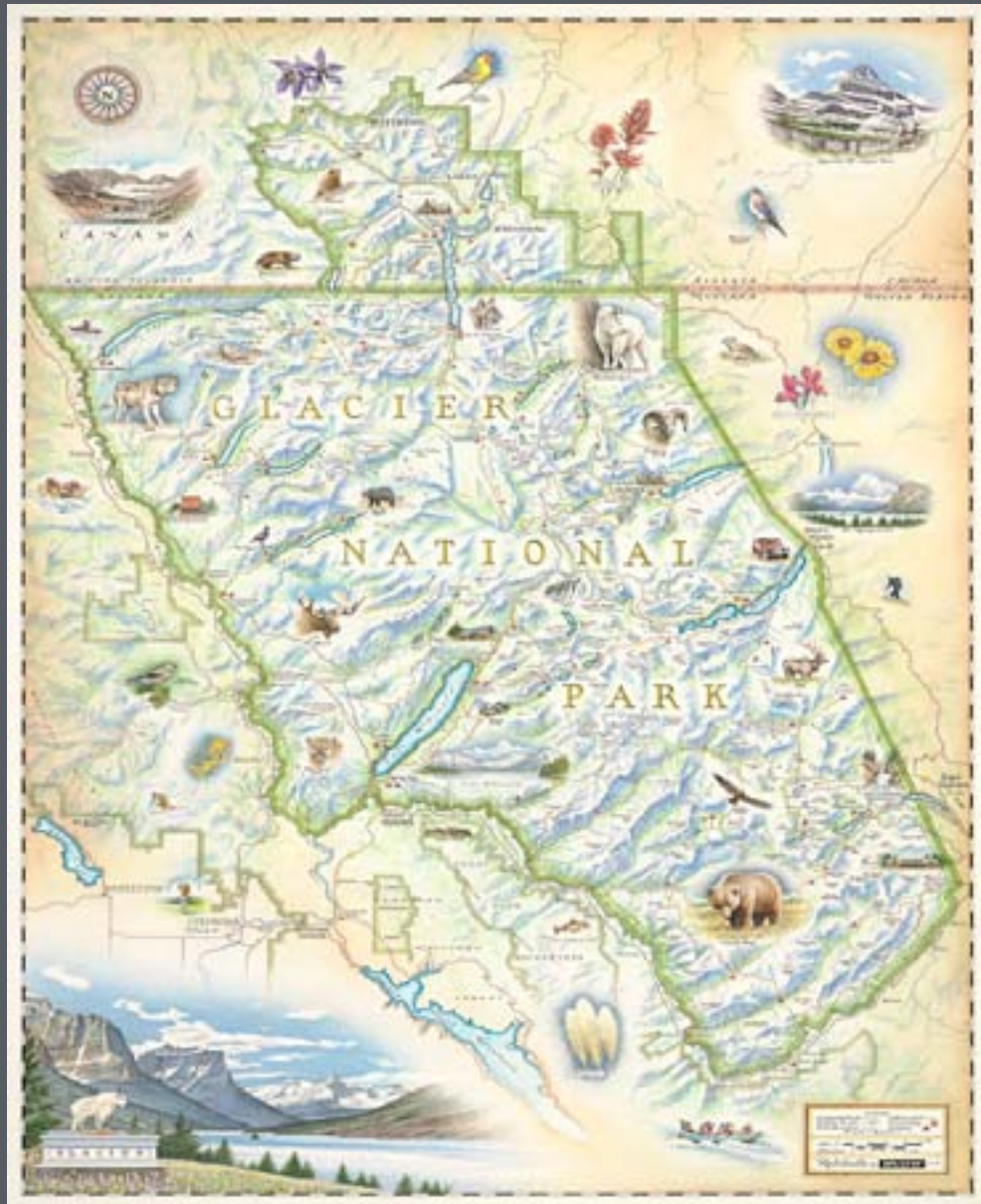
I first began taking photographs in my late teens as a hobby. After moving to the Flathead Valley in the summer of 1994, I was inspired by Glacier National Park and began

to seriously pursue what had become my passion. I am now married with three children and live in Whitefish. Over the years, my photography business has taken many different forms; from weddings and commercial photography to owning and operating my own one-hour photo lab and portrait studio. My passion has always been fine art landscape photography. In a continued pursuit of my dream, my family and I began traveling Montana and the northwest selling my photography at art fairs. In addition to these art fairs I now have an annual Christmas gallery in Kalispell Center Mall.

etreese@centurytel.net <http://www.ericreese.com>  
University Center Christmas Art show Dec 2<sup>nd</sup>,  
3<sup>rd</sup>, 4<sup>th</sup> 2010. Christmas Gallery Opening Dec  
10<sup>th</sup> 6 to 9pm, Kalispell Center Mall. live Jazz  
playing, refreshments. Gallery will be open untill Jan  
2<sup>nd</sup> 2011

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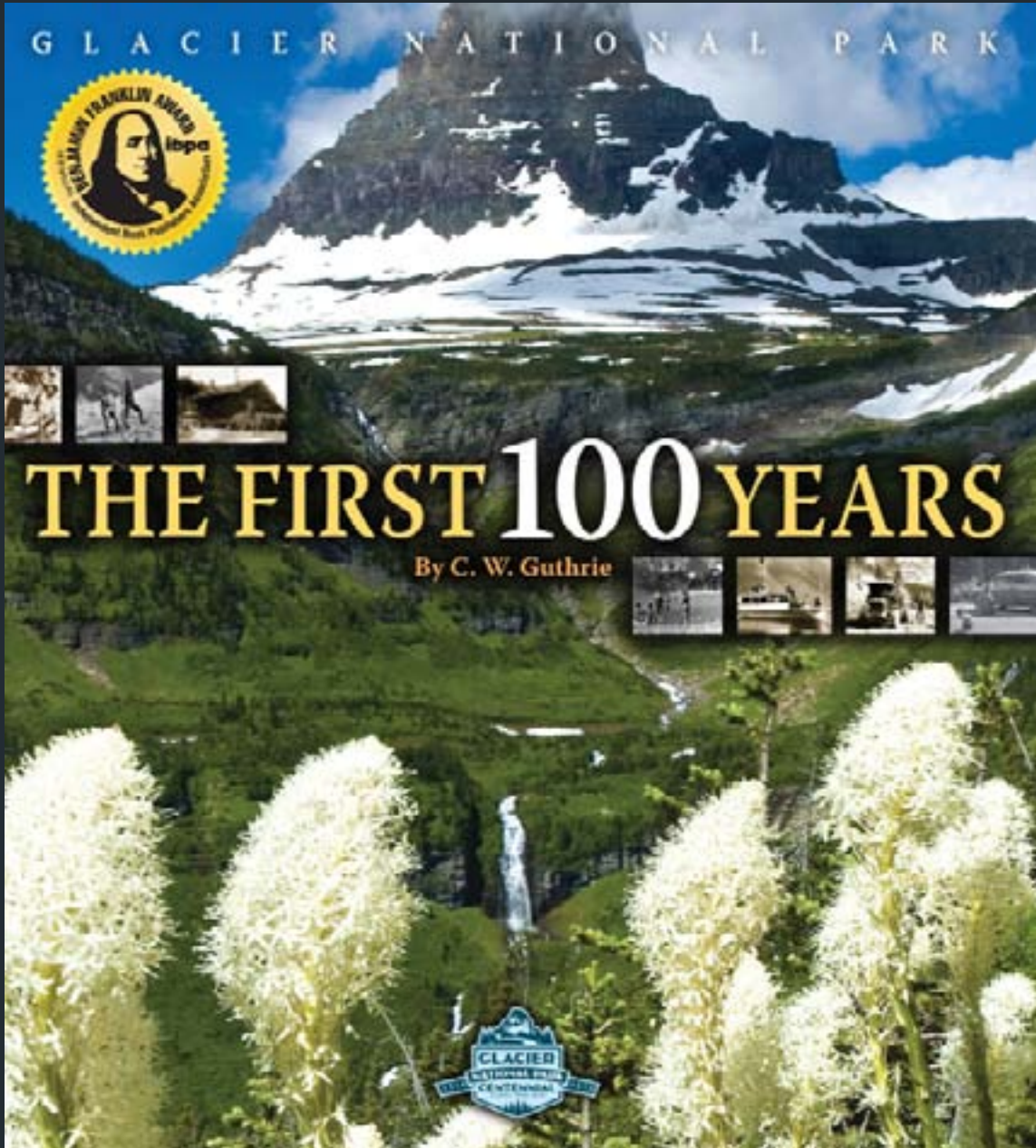
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# CROWN OF THE CONTINENT PLACE NAMES

These places in the Crown, all in the Mission Valley on the Crown's west perimeter, were excerpted from the book *Montana Place Names From Alzada to Zortman* by the Montana Historical Society Research Staff and are used with permission.

## ST. IGNATIUS

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St. Ignatius takes its name from the priest who established the Society of Jesus, Saint Ignatius of Loyola. In 1840, Jesuit missionaries Father Pierre-Jean De Smet and Father Adrian Hoecken first saw the valley where St. Ignatius would stand. Their Salish guides told them they called the place Snielemen, the "Meeting place." At the request of the Indians, in 1854 Father Hoecken oversaw the relocation of the first St. Ignatius mission-which had been established by Father De Smet near the town of Cusick in Washington Territory- to the Mission Valley. Located near Fort Connah, a Hudson's Bay Company post established in 1847, the mission grew and by 1864 boasted a flourmill, sawmill, and church. The Sisters of Providence established a school for girls and a hospital named St. Julian. A new brick church was begun in 1891. The mission reached its peak between 1890 and 1896, with over 300 students attending the school the Ursuline nuns had established in 1884. The town continued to grow when the federal government opened the Flathead Indian Reservation to non-Indian homesteading in 1910. Today it is still a popular destination for those who wish to see the oldest town on the reservation and its beautiful church.

## ST. IGNATIUS MISSION

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The St. Ignatius Mission, named for Saint Ignatius of Loyola, dates to 1854. From 1875 to 1900, the Jesuit mission operated a lumber mill, an agricultural and industrial school for boys, and a boarding school for girls, as well as a printing press from which they produced narratives from the Holy Scripture in the Kalispell language and a Kalispell dictionary. The Jesuits laid the cornerstone of the present mission church in 1891. When it was finished, Brother Joseph Carignano, a cook with no formal art training, covered the church walls and ceilings with 61 paintings. Next to the mission is a museum and gift shop that displays mission and Indian artifacts and sells religious items. The log home that was the original residence of the Sisters of Providence still remains. St. Ignatius Mission is listed in the National Register.



## FORT CONNAH

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The Hudson's Bay Company established a trading post, Fort Connah, on this site in 1847. It was the powerful company's last post built within the boundaries of the United States and represented the British effort to stave off competition from American traders west of the Continental Divide. Angus McDonald took charge of the post, naming it Fort Connah, after a river valley in his native Scotland. The Hudson's Bay Company continued to operate the post until 1871. McDonald's son Duncan, who was born at the fort, served as its last factor. Duncan and his wife, Red Sleep (Louisa Quill), and their descendants were prominent in developing this region. They are buried in the nearby cemetery. The sole surviving fort structure, built of channeled log, is Montana's oldest standing building. The site, listed in the National Register, is under the care of the Fort Connah Restoration Society.

## NINEPIPE

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Established by Executive Order 3503 on June 23, 1921, this 2,062-acre wildlife refuge is named for a Salish man, Joseph Ninepipes, and managed jointly by the BIA, the Confederated Salish and Kootenai Tribes, and the USFWS to provide waterfowl and upland game bird habitat. More than 185 bird species have been counted on the refuge, and as many as 200,000 birds migrate through the refuge during the fall, with a variety of waterfowl nesting during the spring. The refuge encompasses Ninepipes Reservoir.

## RONAN

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Originally settled by Salish residents in 1883, this town was called Spring Creek for the local warm springs that flow into the nearby Flathead River. Residents changed the name to Ronan Springs in 1893 as a tribute to Maj. Peter Ronan, who served as the Flathead Indian Reservation agent from 1877 until his death in 1893. The town received the nickname "Center City" in 1909 because of its central location in the valley. Ronan experienced a sudden boom when the federal government opened the Flathead Indian Reservation to non-Indian homesteading in 1910. Two years later, the town incorporated. With the creation of Lake County in 1923, Ronan vied with Polson for the coveted county seat, under the rallying cry, "It was the land that supported us, not the lake." Despite Ronan's claim as the geographic center of the new county, Polson won the election by a wide margin.

## PABLO

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Pablo got its start in 1917, when the Northern Pacific Railway completed a branch line between Dixon and Polson. The town takes its name from Salish pioneer cattleman Michel Pablo, who is perhaps best known for his efforts to save the American bison from extinction. The timber industry was an early economic boon. Boosters predicted that Pablo would surpass Spokane, Washington, in size and importance, but by 1923 several disastrous fires had taken their toll and the dream of expansion diminished. Today Pablo is the headquarters of the Confederated Salish and Kootenai Tribes and home to Salish-Kootenai College and the, Sqelix' ul Aqtsmaknik, "The People's" Cultural Center.

Connecting people  
and landscapes in  
the Crown of the  
Continent

With the following piece, carrying the title “Connecting People and Landscapes in the Crown of the Continent,” written by two staff members from UM’s Center for Natural Resources & Environmental Policy, Kim Davitt and Shawn Johnson, we are highlighting some of the significant recent work the Center has engaged in that is related to the Crown. This piece represents as well the closer collaboration of the Crown Initiative and its fellow UM entity, this center, led by Matthew McKinney. It is our mutual goal to provide continuing leadership for the far-flung but very important Crown Roundtable that readers can learn about in this article (a role the Center has played extremely well) and increase UM’s role as the information and publicity hub for all of the organizations involved in the growing Crown Roundtable. We invite you not only to read the following article to learn about the Center and some of its recent activity, but click on the hot links as well that will take you to web pages from which you can learn more about the Crown Roundtable and its sponsors, about the Roundtable Conference in September, and the recent Center publication titled “Remarkable Beyond Borders report.



By Kim Davitt and Shawn Johnson

Center for Natural Resources &  
Environmental Policy,  
The University of Montana

There is no doubt that the Crown of the Continent is a remarkable landscape, bejeweled with places like the Flathead, East Kootenays, Rocky Mountain Front, Swan Range, and Glacier-Waterton International Peace Park. It's an 18 million-acre ecological wonderland where plant and animal communities from the Pacific Northwest, eastern prairies, southern Rockies and boreal forests mingle.

There is also no doubt that people are intimately connected to this landscape. Livelihoods in the region depend on timber, agricultural production, conservation and resource management, and tourism. Personal and spiritual connections to the landscape run deep.

While people have a strong connection to the land, they are not necessarily connected to one another. Cultural differences, international boundaries, mixed ownership patterns, diverse public management regimes, and the rugged landscape itself act as barriers to mutual understanding and a shared identity.

Making connections between people who care about the Crown of the Continent was the driving force behind a recent policy report and conference of the same name, *Remarkable Beyond Borders*.

The report describes the unparalleled features of the Crown's landscape and communities; highlights the significant number of people and organizations involved in protecting and conserving the region's rich natural and cultural heritage; and presents options for sustaining its natural and human systems in the face of ever-changing regional and global forces.

The conference attracted over 200 people to Waterton Lakes National Park in Alberta with explicit goals: to connect people and communities with one other, share information and resources, build relationships, and explore shared challenges and opportunities.

These efforts were inspired by conversations among participants in the Roundtable on the Crown of the Continent, an ongoing forum for people that care about the Crown to exchange ideas, build relationships, explore op-

portunities to work together, and jointly shape the future of this shared landscape. The Roundtable is co-convened and staffed by the Center for Natural Resources and Environmental Policy at the University of Montana, the Lincoln Institute of Land, and the Sonoran Institute.

## Sharing Stories Making Connections

The Remarkable Beyond Borders conference was a showcase of compelling stories about the past, present, and future of the Crown of the Continent. Historian and author Jack Nisbet shared historical vignettes through the eyes of early white explorers David Thompson and David Douglas. Blood Tribe Elder Andy Blackwater talked of his vision quest atop Chief Mountain. USFS Deputy Chief Joel Holtrop shared stories of favorite family vacations spent in the Crown's wild places.

A sense of optimism and a spirit of collaboration permeated stories about the Crown of the Continent today. Whether at the scale of the Crown of the Continent (the Crown of the Continent Geotourism Council, Crown Managers Partnership, and Crown of the Continent Ecosystem Education Consortium, Crown of the Continent Conservation Initiative) or at smaller scales (East Kootenay Conservation Program, Waterton Park Front Project, Coalition to Protect the Rocky Mountain Front, the Montana Legacy Project), speakers highlighted how broad-based partnerships were achieving significant on-the-ground conservation results. There were stories of ranchers and conservationists teaming up; cultural leaders and the tourism industry coming together; and public land managers reaching out to a broad array of stakeholder groups. Looking to the future, people expressed a desire to build upon existing efforts and successes and to continue to share stories, lessons learned, tools, and resources with one another. Some stressed that partnerships and linkages will become even more important as the Crown confronts shared challenges like climate change, water resource management, invasive weeds, unregulated development, and growing demand for energy resources. Others, like Yvette Converse with the newly formed Great Northern Landscape Conservation Cooperative, shared how her work is focused explicitly on making these linkages at even larger scales.

After hearing stories about the past, present, and future of the Crown of the Continent, Former Deputy Secretary

of the US Department of the Interior Lynn Scarlett used her remarks to attempt to make sense of it all and present a vision of how people and organizations might work together moving forward: through an “action network,” where interests and organizations formed and re-formed around specific activities in an on-going pulse. In this vision, a shared affinity for the landscape would keep people and organizations connected to one another even in the absence of formal relationships or a new coordinating body.

A Guide to  
Connecting People  
and Landscapes

The Remarkable Beyond Borders report recognizes that activity at all geographic scales – local, watershed, place-based, sub-regional, regional, and beyond – contributes to healthy landscapes and communities. For example, there are many landscape dynamics that require engagement at the local level and coordination within the region. The report provides a brief overview of five such challenges: (1) adapting to a changing climate; (2) managing water resources; (3) protecting critical wild-life habitat and corridors; (4) shaping regional economic conditions while responding to global influences; (5) and guiding growth and development. Understanding these issues and addressing them in the context of shared goals, as well as individual places, is necessary. In this way, a unified voice can emerge organically as groups and individuals become increasingly aware of their shared interests and visions.

The policy report also highlights a number of strategic options to move forward. The options are not presented as a consensus-based set of recommendations; rather, they are more like trailheads, a place to begin exploring paths to sustain the natural and cultural heritage of the Crown. Some of the options build on existing initiatives; in such cases, the intent is to amplify and seek additional support for them. Some options may be new, some just being explored. The report presents 15 specific options that seek to: (1) coordinate policy and planning; (2) expand conservation funding and finance strategies; (3) facilitate scientific and public learning; and (4) build regional capacity.

Next Steps for the  
Roundtable

Recent Roundtable conversations have focused on ways to build upon the energy and connections generated through the conference and report. Specific ideas include a 2nd annual conference, a statement of shared values and principles, and working groups focused on specific challenges or opportunities. Perhaps more important than any specific activity, the Roundtable will continue to provide a forum for anyone who cares about the Crown to come together, confirm shared goals and values, and help chart a future for this remarkable region.

To obtain a copy of the  
Remarkable Beyond Borders  
report or to join the mailing list for the  
Roundtable on the  
Crown of the Continent,  
please contact Kim Davitt at  
kimdavitt@yahoo.com.



# MONTANA — LEGACY — PROJECT

Story - Bebe Crouse, The Nature Conservancy of Montana  
Photo - John Lambing, Rainy Lake – Swan Valley

# T

he Montana Legacy Project is conservation at a scale that can make the difference between survival and extinction for some species. It's not only the largest, private conservation land purchase in U.S. history; it has transformed the future of conservation. But, it has not been a journey for the timid.

The latest leg of the journey began about two years ago, when The Nature Conservancy, with assistance from the Trust for Public Land, penned a deal for the purchase of 310,586 acres from the Plum Creek Timber Company. The price tag for the purchase was just shy of half a billion dollars. More than the Conservancy had ever spent on a single land transaction. But, if they could pull it off, it would mean securing the future for millions of acres of one of the last, biologically complete natural systems on the planet: The Crown of the Continent.

The Legacy Project sits within the heart of the Crown, and connects such magnificent wild lands as Glacier National Park and the Bob Marshall Wilderness and surrounding lands. The Crown is one of barely a dozen places left on Earth that has not had a single plant or animal extinction in recorded history. This system harbors the largest population of grizzlies and is a last toe hold for endangered Canadian lynx in the lower 48 states.

## A CHECKERED PAST

Much of this land has been fractured into a checkerboard pattern of public and private ownership - a remnant of the days when the federal government gave a disjointed scattering of 1-mile square parcels of land to the railroads to encourage settlement of the West. Over time, more than a million acres of these private lands in Montana fell under the ownership of Plum Creek. When Plum Creek began a transition from logging the land to selling it, by forming a Real Estate Investment Trust, The Nature Conservancy recognized a tremendous opportunity.

First and foremost, they saw the opportunity to prevent the land from being sold off to an untold number of private owners, its natural integrity shattered by roads, subdivisions and invasive weeds. Such changes are deadly for wildlife such as Canada lynx and grizzlies. The public use of the land would also be altered. Imagine trying to hike or hunt, only to encounter "no trespassing" signs at the edge of each mile of public land.

## A LEGACY FOR THE FUTURE

The Conservancy seized a moment that wasn't likely to come again; but not without taking a very deep breath. Buying nearly 500 square miles of land in one fell swoop was a staggering prospect. Before plunging in, the Conservancy consulted with the community, reviewed the science and enlisted support from colleagues at Trust for Public Lands.

In the end, they pulled together one of the most complex and innovative projects ever undertaken in private conservation. It's the result of a remarkable collaboration of public & private interests -- representing the high level of financial, scientific & political expertise needed to negotiate such a large transaction. The Conservancy is now in the process of transferring land to public ownership. More than 112,000 acres have been merged with surrounding U.S. Forest Service holdings. Another 40,000 have gone to the State of Montana.

With the economic downturn, the Conservancy faces a daunting challenge to raise all the funds to cover this monumental purchase. But, they know that what they've secured for the future is priceless.

# AVALA

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LANCHE

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## Snow Avalanches in the Crown: A Driving Force in Mountain Landscapes

Erich H. Peitzsch and Daniel B. Fagre

U.S. Geological Survey Northern Rocky Mountain Science Center, West Glacier, Montana

A large, stylized, golden-brown letter 'W' with a drop shadow, serving as a decorative element for the start of the main text.

hen deep winter snows cover the mountains in the Crown of the Continent, relatively few people are in the backcountry to see that avalanches rule. Snow

avalanches are common and hazardous natural occurrences that evoke a sense of awe at their power and destructiveness. Avalanches threaten life and property in mountainous areas worldwide but they also act as important ecological drivers of the alpine landscape by creating habitat for diverse flora and fauna. The steep mountains of Glacier National Park provide suitable terrain for avalanches as well as the perfect laboratory for studying such dynamic phenomena.

It is in the spring that snow avalanches come to mind for many Crown residents as snow clearing begins on the ever-popular Going-to-the-Sun Road that bisects Glacier National Park. This dramatic roadway is an 80 kilometer engineering feat that traverses through or under 37 major avalanche paths. Heavy snowfall, avalanche hazards, and severe weather force the closure of 56 kilometers of this transportation corridor every winter. Every spring, determined Glacier National Park Roads Department workers begin the herculean task of moving vast amounts of snow and avalanche debris from the road surface. These workers are continually threatened by avalanches and rockfall as they progress toward Logan Pass high along the Continental Divide. The spring opening attracts considerable attention; local media regularly report on the progress of the snow removal, and Glacier National Park maintains a website with frequent updates and photos of snow removal operations.

Several avalanche accidents have occurred in the 71 seasons of spring opening. In May 1953, a slide caught four GNP employees clearing snow after a storm. Two of the four were partially buried; one died of trauma. The two others were fully buried; one died, while the second survived a seven-hour burial (Walter, 1983). In 1964, a bulldozer and operator triggered a wet slab avalanche that carried both off the road. The driver was injured but survived. There have been nu-

merous other incidents and close calls, often resulting in buried machinery or costly damage to infrastructure. Slides in April 1991 caused \$150,000 damage to the GTSR (U.S.D.A. Westwide Avalanche Network, 1991).

Thus, a need for avalanche safety and training exists for Glacier National Park personnel. In 2002, Glacier National Park instituted its first formal avalanche hazard forecasting program for snow removal operations and began daily avalanche hazard forecasts in 2003. The Glacier National Park avalanche forecasting program consists of two avalanche forecasters: a U.S. Geological Survey Northern Rocky Mountain Science Center (USGS NRMSC) employee and a National Park Service (NPS) employee. These avalanche specialists perform daily assessments of the snowpack by skiing up to 2000 feet above the GTSR and examining the snowpack for weak layers in the snowpack that would allow for potential avalanches. Avalanche forecasters use a standardized method for documenting snowpack properties and obtaining relevant data from weather stations. Avalanche forecasting has become part of the daily routine during spring opening operations. Road crew foremen consult with avalanche specialists every morning to determine the avalanche hazard for the day for each section of the road.

In 2010 the avalanche specialists created an avalanche atlas for the GTSR (available at [http://nrmsc.usgs.gov/files/norock/research/GTSR\\_Avalanche\\_Atlas.pdf](http://nrmsc.usgs.gov/files/norock/research/GTSR_Avalanche_Atlas.pdf)). The avalanche atlas is a document that details every avalanche path affecting the GTSR. The GTSR avalanche atlas was designed to address three key objectives: GNP Roads Department worker education and safety, GNP infrastructure and resource management, and a foundational database for avalanche research. The GNP Roads Department workers are trained in avalanche safety and rescue, and have dozens of years of informal historical records and anecdotes regarding avalanche path names and locations. The avalanche atlas provides a concrete visual and spatial means to safely and properly strategize their work plan in conjunction with the daily avalanche hazard forecast. The avalanche atlas also aids GNP engineers and landscape architects in planning for reconstruction of the GTSR. Finally, the avalanche atlas provides a foundation for further avalanche research.

In addition to a formal GTSR avalanche atlas, a GeoPDF of the avalanche paths, avalanche path over-

lays for Google Earth, and a Google Earth Flyover movie were created. These visual enhancements and products are available at: see Related Links at [http://nrmisc.usgs.gov/research/gtsr\\_aval.htm](http://nrmisc.usgs.gov/research/gtsr_aval.htm)). This suite of products fulfilled the three objectives of the creation of such an atlas. The formal atlas allowed GNP personnel to have a more explicit understanding of the avalanche hazard along the GTSR from a spatial perspective. Avalanche specialists used the atlas for training of new employees in the GNP Roads Department. Veteran road workers were also able to gain insight to the magnitude of the avalanche paths in which they work and travel. The atlas also helped the Roads Department foremen plan each day's tasks in conjunction with the daily avalanche advisory.



Avalanches impact the GTSR on a regular basis by damaging the road and the historic rock wall. The alpine section of the GTSR is currently undergoing major reconstruction, and the atlas helped GNP engineers and landscape architects and U.S. Department of Transportation Federal Highway Administration engineers in discerning locations to rebuild and reinforce historic rock wall segments along the road. The atlas is currently being implemented in plans for the major decade-long reconstruction of the GTSR.

Various types of snow avalanches impact spring opening operations along the Going-to-the-Sun Road. Both wet and dry snow avalanches pose a hazard to workers during spring opening and have potential to cause delay in opening the Going-to-the-Sun Road. However, wet snow avalanches are the most common type of avalanches affecting the spring plowing operations on the GTSR. The U.S. Geological Survey Northern Rocky Mountain Science Center devotes considerable time to studying wet snow avalanches, specifically wet slab and glide avalanches.

Both types of avalanches depend on a specific combination of snowpack properties and free water moving through the snowpack during spring melt. Under-

standing this recipe of free water and snow structure and the interaction of the two is critical for forecasting wet snow avalanches. Wet slab and glide avalanches are poorly understood in the field of avalanche research, and, thus, are particularly difficult to forecast. This makes avalanche forecasting and research along the GTSR an interesting and complex endeavor.

The research that the USGS NRMSC was completed on wet snow avalanches is driven by a practical need. A greater understanding of the processes driving wet snow avalanches help avalanche forecasters predict avalanches during the spring opening of the GTSR. Learning more about wet snow avalanches through research allows the forecasters to apply these research results to the daily work of predicting these types of avalanches. For instance, avalanche forecasters along the GTSR use remote weather stations located at upper elevations along the GTSR corridor to help create the daily avalanche forecast. Thus far, research efforts illustrated the need to closely monitor air temperature and the amount of water exiting the base of the snowpack through snow water equivalent (SWE) measurements. In addition to monitoring weather parameters, research has shown a specific snow structure necessary for wet slab avalanche release. This structure consists of a weak layer and a series of ice crusts near the bottom of the snowpack. All of this snowpit, avalanche, and weather data are stored in a database and used for research analysis to gain a more thorough understanding of wet snow ava-

avalanche release. This structure consists of a weak layer and a series of ice crusts near the bottom of the snowpack. All of this snowpit, avalanche, and weather data are stored in a database and used for research analysis to gain a more thorough understanding of wet snow avalanches. The database is also used for other research projects such as examining possible relationships of avalanche occurrence and general climate patterns. Climate change is likely to increase the frequency of wet snow avalanches in western U.S. mountains because of warmer winters, earlier onset of spring, and more rain-on-snow events.

Understanding impacts and consequences of large magnitude avalanches is important because extreme weather events that can trigger them may become more common in the context of climate change. At Glacier National Park, understanding large magnitude avalanches is also critical to avalanche forecasting. Large magnitude snow avalanches occur rarely but are a major ecological disturbance in mountain landscapes with consequences that last for decades or centuries (Bebi et al., 2009). Large magnitude avalanches move sediment, plants and nutrients from alpine zones near ridge tops to valley bottoms, influencing biogeochemical cycling (Butler et al., 1992). Avalanches damage or remove forest cover in mostly linear paths that then host a larger array of herbaceous plants and increase montane biodiversity. These avalanche paths can then act as natural firebreaks to forest fires, changing fire dynamics and creating more complex vegetation mosaics (Malanson and Butler, 1984). The floristically diverse paths are critical habitat for wildlife species, including threatened and keystone species such as grizzly bears (Mace and Waller, 1997). Large magnitude avalanches can deposit debris in streams, changing habitat for fish species and other aquatic organisms. Lastly, after the initial large magnitude avalanche occurs and for up to two years, the snow deposits at the base of avalanche paths act as a temporary hydrologic reservoir by releasing water slowly through the dry season (Bebi et al., 2009).

In January 2009 a large magnitude avalanche cycle occurred in Glacier National Park, Montana, following a rapid increase in temperatures resulting in rain-on-snow on the lower portion of the avalanche path and heavy, wet snow on the upper portion of the path. The initial investigations occurred in April 2009 during forecasting operations for the annual spring plowing of the GTSR. The avalanche, designated the

Little Granite avalanche path, was estimated to have descended 1200 m from the start zone near the crest of the Garden Wall and travelled approximately 3 km to end in valley bottom forests near Upper McDonald Creek. The massive avalanche had so much momentum that it traveled approximately 1.6 km across a nearly level area, shearing off a mature forest, before reaching another steep slope where it split into separate paths. Part of the GTSR roadway and historic rock wall was destroyed and a massive debris pile of trees and snow, 10 m high, required several days for heavy equipment to establish an opening through to facilitate the spring plowing.

The meteorological conditions that caused release of the avalanche in the Little Granite avalanche path also caused numerous other major avalanches throughout the park and surrounding mountains. However, the early discovery of this path and its ease of access on the GTSR made this an ideal site for further investigation and to acquire baseline data on large magnitude avalanches, their frequency, and their ecological impacts.

Field mapping the entire perimeter of the Little Granite avalanche path revealed that it had significantly expanded the existing path area, killing trees up to 150 years old and transforming the structure and distribution of vegetation within the new path dimensions. The area for the Little Granite avalanche path increased from 61 hectares to 95 hectares. The avalanche descended a vertical distance of 1200 m through 5 vegetation classes from the high alpine tundra to mesic riparian forests. The avalanche traveled 3 km from the upper starting zone of the avalanche path to the bottom reaches of the runout zone.

In the first growing season post-large magnitude avalanche, the vegetation classes within the path changed. Initial monitoring results show that the largest difference was the reduction in conifer forests. Qualitatively, vegetation damage in the Northern Rocky Mountain Avalanche Chute Scrubland class, along with the area reduction in the forest classes, served to create an open canopy environment that will favor herbaceous plant species in the intermediate future.

Avalanche impacts to the alpine vegetation in the starting zone were largely undetectable. Only minimal damage occurred in the shrubland vegetation class with slide alder rebounding during the first growing season to create a 3 m high canopy where it had already previously been established. Relatively

little bare soil was created from this avalanche, nor was there much transport of rock debris. Most soil transport was in association with the root wads of the trees carried downslope.

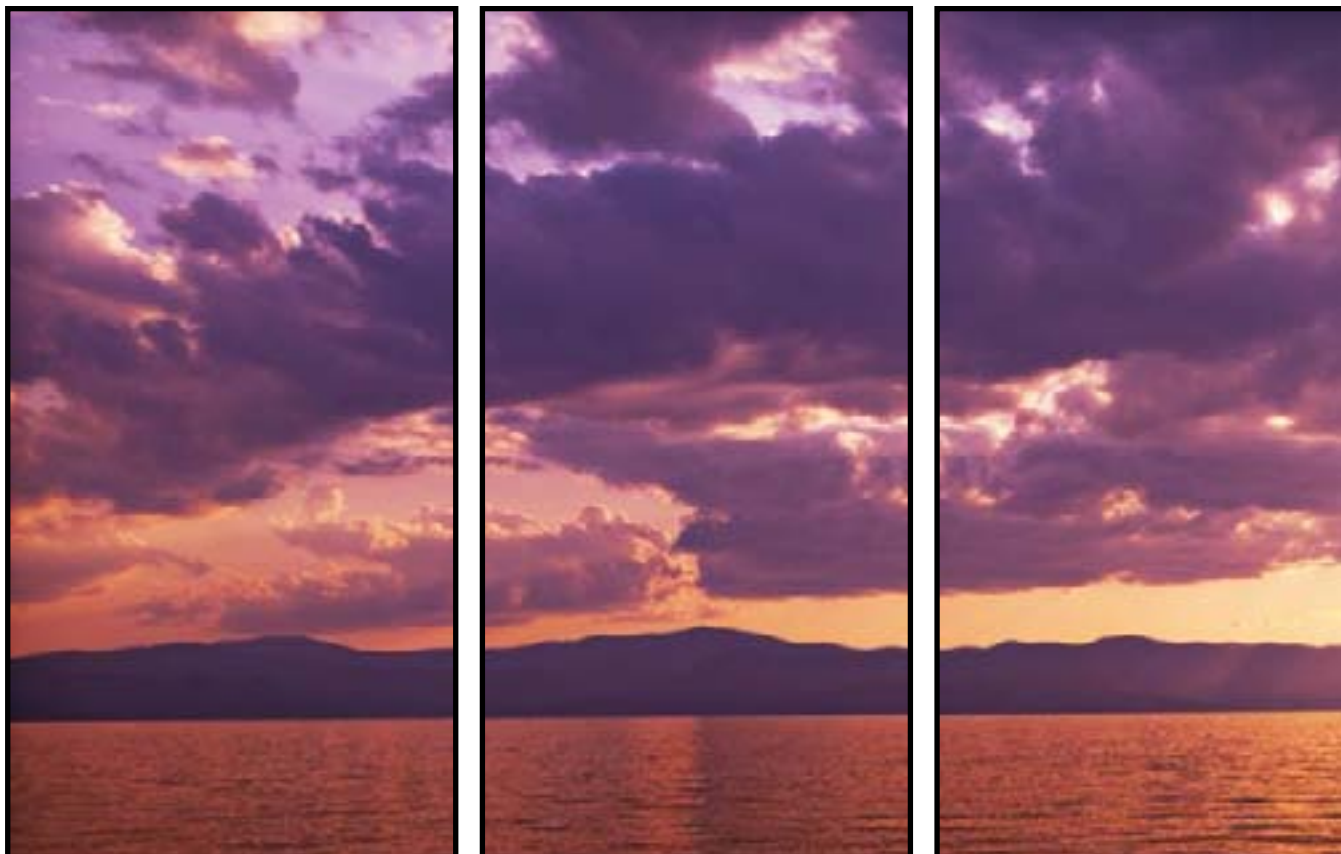
This avalanche was one of many during a single, albeit relatively rare, avalanche cycle and illustrates the landscape-level effects of snow avalanches at Glacier National Park. The ecological impacts documented with the establishment of this study for this large magnitude event underscore the significant role that snow avalanches play in mountain ecosystems by regularly disturbing montane vegetation, particularly forests. The resulting habitats are of great value to wildlife and may be maintained if avalanches are

frequent enough.

Continued studies of the sort described in this article will provide for a better understanding of snow avalanches in the Crown of the Continent. It is already clear that much of what we know about snow avalanches is only partly relevant to the wet, warm conditions of the spring opening of the GTSR and that avalanches have an important and beneficial function in maintaining mountain landscapes. These perspectives underscore the pivotal role that avalanches play in the dynamic nature of mountains and the relationships people have with them.

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# *People of the Crown*



It is our plan for People of the Crown to feature individuals and families who have made a positive mark on the Crown of the Continent. For the first in this series we have chosen a Crown icon – the late Les Averill founder of a Flathead “institution,” Flathead Lake Lodge, and one of his sons and his family.

# The Beginning

Founded in 1945 by Lester Wiley Averill, Flathead Lake Lodge, a former boy's camp is the product of a lifelong dream and hard work. Born in Tabor, Alberta, Les followed the railroad track south with his family, looking for work. Eventually settling in Somers, Montana, on the northwest shore of Flathead lake, Sam Bear Averill, Les' father, would work as a fireman for the sawmill in town while Les finished school.



## From Somers to the Military & Back

After becoming the first Eagle Scout in the Flathead Valley, Les went on to receive his first rate pilot license with Pan American Airlines. Shortly after, he enlisted in the military. After his tour flying bombers and cargo planes, Les returned to his home in the Flathead Valley where he would purchase the camp just south of Bigfork. It was with the two lodges and four cabins from the camp that Les started Flathead Lake Lodge. Over the next 60 years, the two lodges, built in 1932, and four cabins still remain and have seen the likes of many people. Originally a supper club, hunting lodge and dude ranch, Flathead Lake Lodge has had its transitions, finally becoming a full-fledged dude ranch in 1971 when Les's son Doug Averill took over management. This transition came with a passion for rodeo between Doug and his brother Darv, leading them to form the first rodeo schools, running five consecutive years with the world champions in each discipline instructing. With the attention focusing more on horses, Flathead Lake Lodge would begin its life as a complete dude ranch.

## Where is it now?

Much like the old growth forests, scree fields and game trails that blanket the Crown of the Continent, Flathead Lake Lodge remains as much of a classic feature as you will find. In its 66th year, the Lodge continues as the quintessential guest ranch venue for western style vacation and is still operated out of the same 1932 built lodges, where guests can be found sitting in the same original (and as some claim, uncomfortable) furniture.

As with the rest of the Crown region, Flathead Lake Lodge has also gone through some changes, albeit minor. The ranch is still owned and operated by the Averill family, Doug & Maureen and their children, who continue to provide guests with one of Montana's highest-rated hospitality experiences. Today, however, you will find wireless internet, espressos, a first class conference center and even more unique and classically restored modes of transportation. The horse herd now numbers near 100, always a sight to see thundering off to the evening pasture.

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One of the more major influences (I hesitate to call it a change since it has been as much a part of the Lodge as their world famous 'undone brownies') is the continued incorporation of sustainability throughout operations. Flathead Lake Lodge has always embraced sustainability, even before the actions they were taking were considered 'sustainable'. Today Flathead Lake Lodge continues to embrace chemical-free cleaners, local and organic foods, locally sourced suppliers, reclaimed materials, food composting and recycling. Today the ranch property totaling 2,000 acres continually uses sustainable logging practices. These practices, which were developed on the ranch, have become widely respected and even incorporated across the state's parks in need of forestry work.

As the Flathead Valley has grown so has Flathead Lake Lodge's accommodations. Today the Lodge caters to 120 visitors from all over the world each week of the summer. For 10 weeks families converge on the lodge to fulfill their inner cowboy and western vacation dreams. Just like it did in 1945, the Lodge offers guests an unparalleled amount of recreation, from sailing and boating on Flathead Lake to horseback riding through the ranch's elk preserve.

Originally started as a supper club and hunting base camp, Flathead Lake Lodge has expanded from the original two lodges and 4 cabins. Today those 120 guests stay in many different style accommodations from cabins, to cottages and lodges. One thing remains the same however; almost all those newer accommodations have been built over the years using materials from the ranch's property. You can see stone and log siding, all sourced and milled right at Flathead Lake Lodge.

As it always has, the main attraction to Flathead Lake Lodge isn't the historic charming accommodations, or the award winning hospitality, it is the enabler for so many guests to experience the natural beauty and abundance of adventure that is the Crown of the Continent

## Where is it going?

When asked what the future holds at FLL, Doug Averill responded, 'We're very excited for the future, we take pride in that, what we do we always try to do it the right way, and to apply our unique and old fashioned values approach to new ideas.'





One of those new ideas is Saddlehorn, the highly acclaimed, and now given the current housing market, little talked about community the Averill family is continuing to bring to life. Settled in the rocky hills overlooking Flathead Lake, the Averills have taken on Saddlehorn as yet another example of coexisting with Mother Nature in the Crown of the Continent. Just like Flathead Lake Lodge introduces guests to the enjoyment of natural adventures and genuine hospitality, Saddlehorn builds on Flathead Lake Lodge and, with an even bigger picture, designed and enacted as an

‘We are excited to see where we are headed. It has been great working with the U of M. There are so many issues as far as land management is challenging in the Crown and Montana as a whole, which is concerning, but we should also be thankful we live in a place where there is still time to impose responsibility’ -Averill

One tour with Averill through Saddlehorn lets you see just what they are talking about. Saddlehorn was started as an ‘emergency maneuver’ when Averill was



Current day photo of the Lodge.

example of how to live in the Crown of the Continent. Doug has designed this community around a basic principal, ‘simpler is better.’ It is a true community, designed to bring people together through not only experiences but education as well. The community has already hosted many different educational events from the National Defense University’s International Fellows program, to University of Montana’s very own Crown of the Continent classes. In fact, Saddlehorn, the Averills and Flathead Lake Lodge are designing so much of their hospitality programs around education, the University of Montana has honored them with Institutional recognition.

Each semester students from the U of M spend a day at both Flathead Lake Lodge and Saddlehorn where they are treated to a hands-on experience of just how you can live in the Crown of the Continent and have a positive impact. From touring Montana’s first LEED Platinum home to discussing current issues facing Flathead Lake, the students are exposed to both current issues surrounding the Crown as well as current solutions being implemented.

able to purchase the neighboring property from a developer who was proposing 1,200 housing units above the village of Bigfork. Although still a development, a word Averill says he ‘really dislikes’, Saddlehorn has been created as the ultimate example of sustainable living in the Crown.

‘Development is going to happen’ says Averill. ‘This is our best shot at trying to show people how it can be done appropriate to the setting and in a way that future generations can be proud of and still allows them to enjoy the Crown in the ways we are able to.’

In a way, Saddlehorn is very similar to the U of M and many college campuses across the country. The way we view things today has gone full circle: our space is limited on campus and in the Crown, and it is up to us to make sure that this space is used in the best way possible to positively impact the environment, sustaining it for generations to come.

A landscape painting of rolling hills in shades of blue and green, with a large black letter 'M' on the right side.

LONG WINDY RIDGE.  
AN EXPLORATION TO M



# OUNT SIYEH

STORY BY JIM FOLEY

“There is no such thing as bad weather, only inappropriate clothing,” according to Sir Rannulph Fiennes, and I tend to agree. Fiennes climbed to the summit of Mount Everest in 2009, at the age of 65, and according to the *Guinness Book of World Records* he is considered the world’s greatest living explorer. I am no world-class adventurer, but I do love to see what’s around the next bend, and Glacier National Park is where I go to explore.

I love to hike. For one thing I love the wind and I love the outdoors. I love eating as much as I can carry and gambling on the weather while I spend long stretches of time studying the scale, color and texture of talus slopes and sky. In Glacier there are no schedules to keep, no phones, no deadlines, no worries: just my own game and a day to hike my own hike with friends.

It doesn’t matter how many times I come to Glacier, or even whether I hike the same trail. I might think I can remember how raw the scenery will be, but until I am back in it, I never really do. Coming around the bend and seeing it again, keeps all of it brand new. Nothing stays the same on trails.

Siyeh Pass Trail is a remarkable 10.3-mile day hike. It is a special trek, and a remarkably varied landscape to share and recall later with friends. For me, the more rewarding and strenuous version of this hike begins at the Sun Rift Gorge trailhead along Going-to-the-Sun Highway. This past August, friends and I finished off our summer of hikes in Glacier with Siyeh.

For my money, beginning at Sun Rift is the best route to Siyeh Pass. It delivers a quick pay-off, after a short and steep climb above Sun Rift Gorge. Although it can be really windy, the views are incredible. As the trail punches out into the breathtaking Baring Creek valley, I am always shocked at its size. I lose perspective until I burst out into it, and see the little dot of a person standing in it or hiking out of it towards the Pass.

To the west, Going-to-the-Sun Mountain towers above the trail like a battlement, flanking it and running parallel to the creek that climbs through wild red rock formations, alternating among impossibly blue cascades and pools. The trail presses on, through a dense thicket of huckleberry bushes and lush fields of wildflowers before winding across Goat Mountain’s hip towards the head of the valley.

Dr. George Bird Grinnell, the distinguished Glacier geologist, naturalist and ethnologist, named Siyeh Mountain, Creek, Glacier and Pass for a Blackfeet Indian. In

Blackfeet language, “Sai-yeh,” means Crazy Dog, or Mad Wolf. But the trail itself is known for the bright reds and deep greens that color the rock walls and terminal moraine formations around the Sexton Glacier. Mt. Siyeh is one of the tallest mountains in Glacier and Siyeh Trail is famous for being the highest elevation trail in Glacier Park at 8,080 feet, with a 2,240-foot elevation gain.

From the Pass, the views are breath-taking in a different way, and frame the steep east faces of Mount Gould, the Garden Wall leading south to Bishops Cap and Mt. Pollock. I have read that somewhere to the south I should be able to see the Lewis Range, but I lose it among the confusion of peaks surrounding Logan Pass and Sperry Glacier. But their names are well known: Mount Jackson -- a “tenner” cousin, Blackfoot Mountain, and even Great Northern Mountain, beyond the Park.

Standing at the bottom of the steep talus slope waiting for my friends to descend I looked up, amazed to see how tiny they were, I realized I still had little perspective of the scale of this landscape. There was nothing familiar or ordinary in my line of sight. Even the lakes had taken on other-worldly, glowing shades of blue in lakes, no more striking than the pinks and reds of peaks I studied from the Pass, or even the gun-metal colors that streaked the sky and talus blowing up from the trail to sandblast my legs and face.

As we proceeded out of the moonscape of the Pass towards the famous intersection known as Preston Park, it was impossible to miss the unmistakable junction along the trail where Piegan Pass Trail and Siyeh Pass Trail converge. This place is famous for wildflowers.

Nearly every thing I know very well about hikes in the Park, I have gleaned over the years from my own beaten up copy of *A Climber’s Guide to Glacier National Park*, by J. Gordon Edwards. I haven’t yet marked off the Skyline Trail from my map, a ridge-walk culminating at Siyeh Peak, made well known by Edwards. But others who have been there ahead of me tell me it’s worth the undertaking. I look forward to it: no phones or deadlines, heading out from Many Glacier, a few noisy companions, a backpack full of snacks, rain gear and ready for a long, windy, ridge walk across the Skyline, towards the summits of Wynn Mountain and Cracker Peak, and finally Siyeh. My friends are ready and so am I: next summer.

# A MAN'S LOVE FOR MONTANA AND THE CROWN OF THE CONTINENT NEVER WANES

AN INTERVIEW WITH JIM FOLEY BY KYNSLEE SCOTT



After decades of work on Capital Hill for Representative Pat Williams and Senator Max Baucus, Jim Foley has since returned to his home under the Big Sky. Currently serving as Executive Vice President at the University of Montana, it is apparent Jim's love for the land has only grown stronger from his time away.

When asked about mountaineering in GNP, Foley's perspective was one of both a native and somewhat of a tourist, having lived away from the beauty for so long. "It really is to have fun and to see places in the state I think that sometimes we take for granted. We go by these places and say 'one day I'm

going to go hike it or go see them and you don't do it. Until you get to a point where it's- 'I have got to do it'." Foley also mentions journalist Charles Karault who referred to GNP as "the Little Alps", and adds that especially on clear days "Glacier is a pretty magnificent place."

From Jim's perspective, there is no question that Glacier, as well as all of Montana's parks is beautiful, but the value lies with the individual and what is gained personally by exploring these magical places. "Every single hike, no matter where you go, is different. If you go on the same hike again, it's different."

His most difficult climb in the GNP to date has been the notorious Mount Brown. Gaining well over 5,000 feet in less than six miles, Brown's routes to the peak are intimidating and steep. Foley has humbly completed the grueling trail more than once. He modestly describes his climbing style as "recreational," using no ropes, no gear, and nothing special. From years of hiking in Glacier, Jim has collected many memories. "You run into a lot of people from various states and countries- all of them have a story to tell."

Jim recognizes that hiking and exploring these sites is up to the individual. "It is an opportunity to reconnect... to an amazing place. These areas really give you a sense of place and serve as a common ground for all." Too

often natives, residents, and passers-by of Montana don't slow down enough from the hustle- bustle of the cities to appreciate the splendor. Jim's message that resounds is- "we should not take for granted these every day views, especially in the Crown of the Continent but instead make every day under the Big Sky- extraordinary."



View of Mt. Siyeh from Mt. Pollock

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### WELCOME

THANK YOU FOR VISITING OUR OFFICIAL WEBSITE of the University of Montana's Crown of the Continent initiative. This initiative grew out of discussions between the University and representatives of Glacier National Park initially, but has grown to become a collaborative effort involving an ever-expanding number of additional organizations, agencies, non-profits, and educational and research institutions on both sides of the U.S.-Canadian border.

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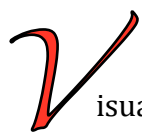
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# *Glacier Artists*



*A Book Recommendation*



Visual artists of many styles and various mediums have long found great inspiration for their work in the vistas, landscapes, flora and fauna, and peoples of the Crown of the Continent region. Some of their work pre-dates the founding of Glacier National Park. The works of these artists –oil paintings, water colors, poster art, photos, bronze--, especially those that focus on this magnificent Park, reflect both the conventions, interests, and artistic tastes of the times in which they were created as well as the personal impressions and artistic philosophies and practices of the individual artists who made them. In this wonderful book at hand, which we strongly recommend to anyone who wants to get a broad overview of some of the most impressive works of art in this vein and of many of the most important artists, we are treated to a coffee table format publication that highlights and sets into artistic and historic contexts works that were created primarily during the first half century of Glacier National Park. My only and very minor complaint is that, given the fact that the book deals almost exclusively with artists from the first forty or fifty years of Glacier National Park (which is celebrating its 100<sup>th</sup> anniversary this year), the title should perhaps read “...The early Artists of Glacier National Park.” But given the overall excellence of this book, that’s quibbling.

Following a brief introduction by Larry Len Peterson, the book is organized into four major chapters that discuss and offer a magnificent sampling of artistic works that exemplify that chapter’s special focus. Each of these four chapters is divided further into sections on individual artists. The first chapter constitutes something of an anomaly in that it deals with what the author has chosen to call “Sign Talkers: The Authors,” rather than visual art and artists. But the descriptions and samples from the writings of George Bird Grinnell, James Willard Schultz, Walter McClintock, and Frank Bird Linderman provide an insightful and rich introduction to what the early enthusiasts, advocates, explorers, and scholars of the Park saw, learned, and were awed by. The chapter is amply illustrated with photos, book covers, posters, and paintings (McClintock was also an exceptional painter) that tie writing and visual art together in striking and important ways. The final section of this chapter is dedicated to a discussion of “the Promoters,” that is, those writers such as Mary Roberts Rinehart (*Through Glacier Park in 1916* and *Tenting To-Night*), Agnes C.

Laut (*Enchanted Trails of Glacier Park and Blazed Trail of the Old Frontier*) or Walter Prichard Eaton (*Sky-line Camps*) and Margaret Thompson (*High Trails of Glacier National Park*) who played an important part in popularizing Glacier National Park and the Rocky Mountain West among the broad American (and European) populations. Many popular images of Glacier and the Rocky Mountain West,--realistic, romantic, and nostalgic-that still abound in the heads and imaginations of people around the world, find some of their earliest “promotions” in such works.

The book’s second chapter also focuses on “promoters” of Glacier National Park, the so-called “Empire Builders. The Hills and Their Artists.” This chapter discusses the powerful role that James J. Hill and his son, Louis Hill, and their Great Northern Railway played in developing many of the iconic facilities (lodges, chalets, hotels) and images of Glacier. Unlike the writer “promoters” discussed in the previous chapter, these promoters were interested in advancing the Park for commercial reasons. This important chapter offers plenty of history and a wide range of artistic and commercial images from the era of the Hills. The posters, post cards, photos, and commissioned art works that are replicated here illustrate the themes and nostalgic images that were used to intrigue and inspire prospective visitors to the Park and its romantic accommodations, wilderness activities, and awe-inspiring landscapes and vistas. Particularly the extensive collection of Glacier National Park posters shown in this chapter underscore the basic themes that these “promoters” wanted to emphasize: fresh air and outdoor activities such as hiking and horseback riding, the proximity to Native Americans (especially the Blackfeet), rustic but comfortable and even majestic accommodations, and adventure. “Their artists” who are featured here include the outstanding photographers Fred A. Kizer and T.J. Hileman, and the intriguing painters John Fery and Winold Reiss. The numerous works by all of these artists included here remind us of how so many of the iconic and popular images of Glacier National Park had their origins in the works of these and other early artists. Readers will undoubtedly recognize some of the works shown here, such as Hileman’s photo of Blackfeet Indians in full head dress greeting tourists at East Glacier, Kizer’s hand-colored-in-sepia postcards of Blackfeet Indian Encampments at St. Mary’s Lake, or Reiss’s brightly colored paintings-become-posters as advertisements



for the Great Northern Railway. But even well-versed readers in things related to Glacier will find numerous other works here by these “classic” artists who significantly influenced and continue to influence our notions of what Glacier National Park was, and still is perhaps, all about.

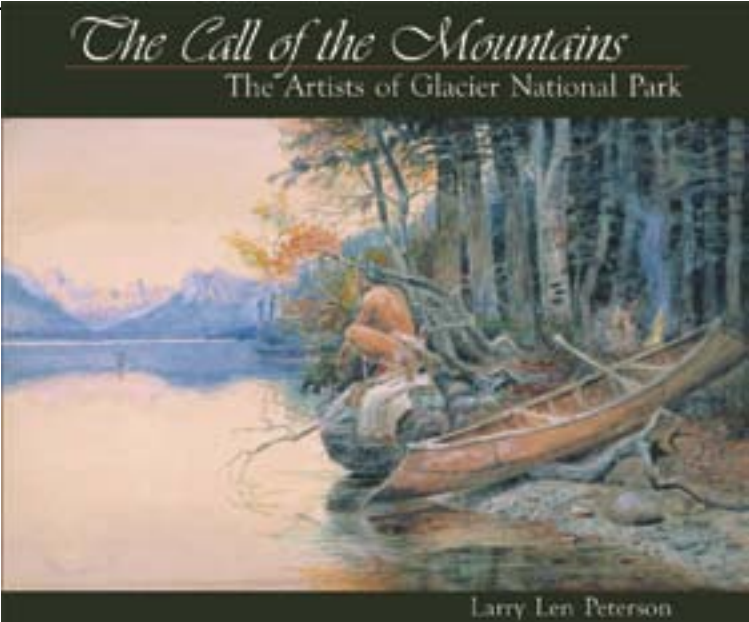
The third chapter of the book builds on that aspect of the previous one that dealt with the “promoter” photographers Kizer and Hileman in that it provides us with a tremendous overview of the aptly named “Shadow Catchers. The Photographers.” Some of the photographers represented here are certainly known to most readers (Edward Curtis, Roland Reed), but others perhaps are not so well-known (Ted Marble, Norman Forsyth). Regardless of whether their names or photos are immediately recognizable or not, this chapter presents a wealth of extraordinary photographs and images of many important aspects of Glacier National Park: lakes and mountains, wildlife and glaciers, Native Americans and tourists. One comes away from this chapter not only admiring the images reflected in these photos, but the artistic genius of these early landscape and outdoor photographers in general.

The fourth and final chapter in the book, titled “Word Painters: Charles M. Russell and Friends,” offers not only impressive replications of several Charlie Russell paintings of Glacier National Park where he lived in a cabin on Lake McDonald for many years, but also samples of the works of numerous other painter

“friends”, including Philip R. Goodwin, Joe De Yong, Joseph Henry Sharp, Maynard Dixon, John Clarke, and one of the few Native American artists featured in the book, Lone Wolf. This longest chapter in the book offers an outstanding range of paintings of diverse realistic and romantically embellished images of the Park. The spectrum of styles and approaches to their topics and scenes is particularly impressive and illustrates how amazingly varied individual artists’ approaches to creating images of the same or similar landscapes and topics can be and were. Readers who aren’t familiar with the paintings of Goodwin, De Yong, Sharp, Dixon, Clarke, and Lone Wolf are in for a special treat with their works that are featured in this chapter.

*The Call of the Mountains* is an exceptional book, one that every admirer of Western art and Glacier National Park, separately but especially together, should own, look at again and again, and give to like-minded or even potentially like-minded friends and family members on special occasions. We owe Larry Len Peterson much gratitude for gathering these artists and works together, and for supplying extremely important textual background and information about the artists, their artistic works, and the amazing Glacier National Park that inspired them.

*Story by Jerry Fetz  
Photo by Kait Perrodin*



**Larry Len Peterson, *The Call of the Mountains. The Artists of Glacier National Park.* Tucson, AZ: Settlers West Galleries,**

# CONTRIBUTORS


Laine Averill is a native of Bigfork, Montana and the third generation at Flathead Lake Lodge. With a passion for the outdoors and photography, Laine spends most of his time in the mountains, skiing and hunting in the fall, winter and spring, while summers are spent enjoying Flathead Lake, team roping and golfing. A recent graduate of the University of Montana in 2009, Laine has returned to Bigfork to help his family run the lodge hoping to continue an amazing adventure.

Erich Peitzsch is a physical scientist and avalanche specialist with the USGS Northern Rocky Mountain Science Center in West Glacier, MT. His research includes such topics as avalanche mechanics, avalanche ecology, glaciology, and climate change effects in mountain ecosystems. He also works as an avalanche specialist for the Going-to-the-Sun Road in Glacier National Park.

Rick Graetz is a member of the UM Geography faculty Co-Director of the Crown Initiative and is founder of of Montana Magazine and American Geographic Publishing.

Susie Graetz is a researcher and visiting scholar in the University's Central South west Asia Program. Together the couple has authored and published numerous books and papers on Montana, regions of the USA, and titles for countries in Asia and the West Indies. They also write a syndicated newspaper column titled "This is Montana".

Gerald Fetz is a native Northwesterner having grown up and lived in Washington, Idaho, Oregon and since 1970, Montana. He retired in December 2008 as Dean of the College of Arts and Sciences at The University of Montana Though retired from full-time work at UM, he continues to teach part-time and serves as the Co-Director with Rick Graetz of the UM Crown of the Continent Initiative.



Dr. Dan Fagre is a Research Ecologist for the Northern Rocky Mountain Science Center of the U.S. Geological Survey and Director of the Climate Change in Mountain Ecosystems Project. He is stationed at Glacier National Park and is a faculty affiliate at the University of Montana, Montana State University, University of Missouri-Columbia, University of Arizona and several other universities. He's worked for the past 19 years with many staff, partners and collaborators in the Northern Rockies to understand how global-scale environmental changes will affect our mountain ecosystems.

Tristan Scott is a graduate of the University of Montana School of Journalism and has worked at the *Missoulian* daily newspaper since 2005. Originally from Minnesota, the allure of the mountains has kept him firmly planted in Montana. He lives in Kalispell as the *Missoulian's* Flathead Valley Bureau reporter.