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# CROWN OF THE CONTINENT

THE UNIVERSITY OF MONTANA

MAGAZINE  
Winter 2012 Issue 7



THE UNIVERSITY OF MONTANA CROWN OF THE CONTINENT INITIATIVE

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**Cover Photo:**  
A Blackfeet woman at North American  
Indian Days – Browning, Montana

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# Memories of “The Bob”

By David Forbes



Photo courtesy of David Forbes

*Editors’ Note: David Forbes, Dean of the Col-  
lege of Health Professions and Biomedical Scienc-  
es at UM, is currently serving as Interim Vice Presi-  
dent for Research and Creative Scholarship. Dave  
has been a great supporter of our Crown of the  
Continent Initiative, and since we were also aware of  
some of his extensive experiences in several parts of the Crown, particularly in the “Bob,” we asked him if he would  
write up one of the many stories about those experiences and share it with our readers. An experienced horseman  
who grew up on a farm in Wisconsin, Dave is not only an exceptional academic administrator and colleague, but an  
avid outdoorsman who has spent many days and weeks over the past twenty–some years in Montana exploring, in  
the saddle and on foot, some pretty remote and spectacular parts of the Crown.*



Photo by - William Klaczynski



I am pleased to have been asked to share a story about my summer experiences in the Bob Marshall Wilderness. I have horse packed in “The Bob” many times, and every trip includes memorable events and fodder

for later stories. Before I start my story, I need to state the obvious, something many folks already know: the Bob Marshall Wilder-ness is an unbelievable place to spend some time. Besides the breath-taking views, you



Photo courtesy of David Forbes

have to be self-sufficient and make do with the items you have brought with you, i.e. no farrier to replace a horseshoe, no local store to buy bug spray or matches if you run out, and no ice for your drinks!

My story starts with three friends from back east (two from Washington, D.C. and one from Iowa) who had heard of the Bob Marshall Wilderness and wanted to visit “The Bob”. At the time, I only had three horses, so a traditional horse-packing trip was not going to be possible, and, of course, these friends did not want to pay for a commercial packer. But I had an idea!

My idea was that we would do a week long trip starting at Benchmark (out of Augusta)

and I would pack two horses, and because I had an inkling that not all three of my buddies were in good physical shape, we would take the third horse along with a saddle as a riding horse just in case. And sure enough, we needed the saddle horse! I had sent the “crew” topo maps and I had tried to inform them that we were not going to Disneyland nor were we going for a simple walk in the park! But I said that I could pack all we needed for our trip on two pack horses and no one would need to carry much at all.

We met in Missoula, I loaded the horses, and set off in two vehicles for Augusta where we had lunch at Mel’s Diner and then we drove to Benchmark. Benchmark is a major jumping off point to enter “The Bob” from the Rocky Mountain Front and there also is a

mile-long paved air strip there.

The lower packing area at the trailhead was full, so we unloaded and I packed the horses at the upper parking area. The first problem (I always start out with a scale to weigh and balance the loads for each horse) was that we had too much “stuff” to load onto two horses. I could see that the crew was not pleased when I told them they had to carry the beer themselves (my first clue that my crew and I were on different wave lengths with regard to this trip)!

We finally got everything loaded onto the horses and headed for the Chinese Wall,

but, as everyone knows who has been there, the climb to the base of the Wall is a significant climb. It quickly became clear to me that one of my buddies was not going to make it, so he climbed up onto the saddle horse and rode — that worked. The views at the Chinese Wall are spectacular and well worth the climb. Even the members of this rag-tag crew were duly impressed.

We met a commercial packer on the trail, which concerned me, because I figured they would beat us to one of the few legal camping spots. But, to my surprise, the commercial packer with guests and wranglers took an illegal camping spot, so we passed them



Photo courtesy of David Forbes



Photo courtesy of David Forbes

and got to a camp site I had previously used.

That night it rained hard (my buddies got wet) and I kept one horse in camp and let the other two horses graze. But one combination of two horses didn't come back, so I had to saddle up and find them, which I luckily did. To our surprise, the two grazers had not grazed the back trails but had gone forward.

The next morning the commercial packer caught up with us, and I informed him that they had used an illegal camp site. Then they made two mistakes – first they told me they had a “special permit,” which I told him I doubted was true, and then (I could not see any brands on the horses) when I asked who

they were, they told me they were from the XWZ Ranch (not the real name, but I knew the owners of that ranch). Later I asked the Forest Service about the permit (no such permit exists, just as I had expected), so they called the packers' ranch and a fine was paid for illegal camping!

We then marched down Moose Creek, and the mosquitoes were thicker and the trail mud deeper than I had ever seen. Again, the crew was not pleased. They had shorted me one day of the trip, so we covered a good deal of ground each day; and loaded pack horses don't like to dilly dally, thus we had to “dog trot” to keep from having a pack horse either step on our shoes or from punching the back of our heads with his nose! The

crew, needless to say, didn't like this pace either!

Finally, our second to the last night out, an event that really upset the crew occurred. We were camped at one of my favorite spots – Glens Creek –, which empties into the Sun River. I was very tired so I hit the sack around 8:00 PM, and when I got up the horses were all gone. I thought, gee this is great; the crew has gotten up and were feeding the horses. But, to my surprise, the crew was still sleeping, so I woke them up and asked, “Where are the horses”? I was told that right after I went to bed “the horses left.” - I must have done a poor job tying them to my highline.


I told the crew we would have to walk out and that I would come back later and pack the stuff out and ship it to them. So we put all the camping gear in the tents, and my crew, who had become three angry folks,

and I started walking. But, luck was with us and we found the horses tied to a tree about two miles away, so someone must have seen them and guessed what had happened and tied them for us.

We then went back to our previous campsite and loaded the horses, headed for the next camp site, spent one more night (and the last night for them) in “The Bob” and the next day we packed up, got to the trailhead, and two of the crew left for Washington, D.C. The trip was more than the crew really wanted or ever expected. I was proud to have shown these three friends “The Bob,” but prouder still that I managed to get them through the strenuous trip without anyone getting hurt (other than lots of mosquito bites and blisters on their feet!). And, of course, we all had great stories to tell others. (I wonder even now what their versions of this story sounded like)!



Photo courtesy of David Forbes



Beyond the reach of recorded history, with details lost in the mist of surmise, ancient peoples migrating from inner Asia traversed a then-existing land bridge across the Bering Sea into what would become Alaska and trekked through the Yukon River Valley before journeying south into Montana and beyond. As a guiding landmark, they traced the eastern flank of an imposing, natural barrier--the Rocky Mountain Front--establishing a passage now known as the Old North Trail.

# THE ROCKY MOUNTAIN FRONT

**A PROFILE**  
By Rick and Susie Graetz

From near Birdtail Hill looking towards the Rocky Mountain Front  
- Susie Graetz

It is here, along “the Front” that the Great Plains skid to a halt against the escarpment of the Rockies. No transition zone of slowly rising foothills: the mountain wall wastes no space in making its existence felt. And what a presence, fortress-like reefs ascending to naked heights two to four thousand feet above their base!

Looking toward the sunrise from the Rocky Mountain Front, the horizon, a soothing fusion of earth and sky, seems endless. For sure, here is the landscape’s softer, gentler side. Short-lived hills intersperse with buttes, river bottoms, prairie pot holes, flatland, clusters of fens and stands of deciduous and conifer trees. It’s this contrast of quiet serenity and the explosive power of the mountains that has inspired people to love and cherish the place.

And, the Rocky Mountain Front is far more than just a pretty face. Firstly, it’s fairly pristine. Human imprint is minimal and for the most part is confined to a handful of small well-spaced communities and scattered multi-generational ranches.

Alive and rich with wildlife, an elevational landscape and climate gradient rising from riparian areas to short grass prairie and upwards to shrubs, open forests and precipitous cliffs, provides living space for 43 mammals and 110 species of birds. Grizzly bear and wolverine abide here, as well as one of the largest native bighorn sheep and goat populations in the nation. This is the only place in the lower 48 states where the big bears still venture out to the prairie they roamed when Lewis and Clark explored Montana. Gray wolves frequent the Front’s northern canyons. Jagged reefs and soaring walls provide sanctuary for golden eagles and prairie and

peregrine falcons. The southern reaches serve as wintering ground for the second largest migratory elk herd in the nation as well as deer and antelope. And interestingly enough, shimmering west slope cutthroat trout, for the most part found only west of the Continental Divide, find some of the streams of the region to be to their liking. It can be said that with the exception of bison, every species that was here when the Corps of Discovery came up the Missouri in 1805 is still or once again in residence!

Probably the most insignificant of the inhabitants of the Front in relation to the space they occupy is the human species. Hard up against the rise of the mountains, widely separated ranches and a dispersion of isolated houses dot the open expanse and a few structures have worked their way into the canyon openings. Otherwise, the immediate Rocky Mountain Front is free of extensive people-presence. Even the towns, set well to the east of the mountains, are unobtrusive. Strung out along 152 miles of a two-lane highway, they are the pleasant, small communities of Augusta with 260 citizens, Choteau 1,720, Bynum 30, Pendroy 259, Dupuyer 88, Heart Butte 690 and East Glacier 1,020. With the exception of Browning, all rely on ranching and some farming to sustain their economies. Browning is the headquarters for the Blackfeet Reservation and hence the tribal government is the largest employer.

The agricultural community consists mainly of ranches. The fact that these cow-calf operations have been sustainable for so long provides the key to the pristine nature of this piece of geography. And many of these ranchers have put their land into conservation easements—more than 160,000 acres as of this writing.

## Geology

Intrinsic to the Front’s powerful physical presence are the myriad forces that formed it: floods, faulting, upheavals, glaciers, winds and volcanic activity. Natural influences and the work of ice at its best! For our purpose, this discussion focuses

only on the extent between Hwy 200 and Hwy 2, a region labeled as Montana’s Overthrust Belt. The structure continues north and south of this distance, but the arrangement and rock types are different, especially in the Waterton-Glacier area.

While mountains were building to the west, sand, silt and mud were deposited on the floor of a shallow inland sea that once covered the northern prairie. As the water receded, the sediments lithified into the shale, mudstone, siltstone and sandstone surface we see today.

If you are flying in an airplane, and look from the initial face of the Front to the Continental Divide and the Chinese Wall, you will find a 20-mile-wide swath of lengthy north-south trending mountain ridges. This is overthrust geology and it was created by an intense compression deep within the earth that broke, lifted and pushed elongated areas of thick rock layers forward over younger formations. Geologists feel the older rocks now in place on the Front were forced into a slanted position and then shoved eastward anywhere from 30-50 miles over the younger prairie foundation. Typical of overthrusting, the western sides slope gradually



The overthrust reefs of the RMF south of the Sun River Canyon - Rick & Susie Graetz

down while the eastern faces are precipitous. The crests of each rise are of erosion resistant material, but the underlying strata of the lower reaches wear away more easily, hence, in between, deep narrow valleys formed. The bedrock in the area west of the Chinese Wall is pre Cambrian in age, the oldest rocks on the planet. Heading toward the plains, each successive ridge is a bit younger. The eastern most rocks of the uplifts are, for the most part, Cambrian and the prairie flowing outward developed during the Cretaceous period. Although the rock face of the Front and the prairie lands touch, they are about 500 million years apart in age. One of the best places to observe at least four of the overthrust formations of the Sawtooth Range, a name sometimes used for the Rocky Mountain Front, is from the Sun River Canyon road.

Sedimentary rocks—gray Madison limestone—dominate the core and surface of the RMF. While drab in color, they are filled with many fossils including shellfish fossils indicating their long ago underwater existence. Other fossils include coral that look like honeycombs embedded in rock and blue-green algae, the first known form of life in these parts and therefore

are exciting to geologists. Limestone (CaCO<sub>3</sub>) is a mineralized form of calcite; hence, acid, rainwater and snowmelt acts on it forming wild etchings, rough surfaces and mysterious caves.

Jefferson dolomite is another sedimentary rock found in the walls of the Front. Generally dark brown or black, it has a malodorous scent when freshly broken. Abundant organic matter trapped in the rock causes both the dark color and the foul smell.

Volcanic-like action also contributed to what we marvel at on the Front today. Haystack Butte, the distinct conical landmark southwest of Augusta, protrudes a bit east of the Front's face and is unique in the fact that it is an igneous intru-

sion—magma or rock born of heat and fire was squirted upwards from within the earth through a fissure.

### **Glaciers and Floods**

The massive ice sheets of the continental flow that came from Canada and those sent forth from the mountains played a major role in shaping the physical features of the Front.

Continental glaciers that extended almost as far south as Choteau blended with several alpine glaciers that emerged from RMF canyons. The most notable of these frozen rivers passed through the Sun River Canyon and spread out to meet the southern edge of the prairie ice.

Proof of the extent of this mountain glacier is the large terminal moraine that sits between Augusta and the canyon's mouth. To the north, many low-lying hills are sprinkled with glacial erratics—rocks not native to the area that came from elsewhere—and this is also evidence of the glaciers' one-time presence. Together, the enormous ice sheets and the glaciers originating in the mountains created potholes and wetlands that are important to today's wildlife habitat.

More recent natural events redesigned parts of the Rocky Mountain Front. In June 1964, copious amounts of rain dropped on top of a heavy mountain snowpack sends an epic tide of water gushing eastward out of the mountains. The

powerful flood left extensive scars of disruption on the terrain. Once vegetated riverbanks and grassy floodplains are now barren and littered with boulders and gravel that originally was part of the mountains. Sparse foliage is just now beginning to return.

The devastation of this flood and another in 1975 is especially evident in the Sun River Canyon, and the Teton River and Birch Creek drainages.

Floods, faulting, upheavals, glaciers, winds and volcanoes: no wonder retired University of Montana geology professor Dave Alt describes the incredibly complex geology of the Front as "a horrible mess."

The overthrust reefs of the RMF south of the Sun River Canyon - Rick & Susie Graetz







Cultivation on the Front - Rick & Susie Graetz

## Time and Space

Most geographers agree that physical and historical geography should never be separated. Aside from the Great North Trail and its human travelers, the Front Range was home to some of the earliest known wildlife on the planet—the *Maiasaur*, or “Good Mother Lizard.” Their remains in the form of fossils of baby dinosaurs and eggs are evident in an area just west of Choteau known as “Egg Mountain.”

And much later in the annals of the Front, stories of the “Old West” played out here in real life. Native Americans, trappers, traders, missionaries, ranchers, cowboys and the US Military all took on roles in a colorful drama that spanned almost 200 years.

Intense and often hostile interactions among the indigenous peoples who claimed this place and

those who entered it reveal accounts unlike any in the nation. From the mid 18th through the mid 19th century, the Blackfoot Nation controlled the prairie country in the shadow of the RMF and battled many other tribes, especially those from west of the Continental Divide who annually “went to the buffalo.” At one time, bison roamed here by the hundreds of thousands making the land east of the mountain wall fruitful hunting grounds to be fought over.

The Salish, Kootenai, Gros Ventres, Nez Perce, and other tribes crossed the vast mountain wild country of today’s Glacier National Park and Bob Marshall Wilderness on their yearly hunting ritual and encountered the feared Blackfoot warriors. After the 1860s though, hostilities began waning as the Blackfeet’s might weakened and treaties to allow common hunting territory came into play.

By the 1830’s the first white men arrived, not to stay, but to trap fur-bearing animals and to trade with various tribes, especially the Blackfeet. Short-lived trading posts were established; one of them led to the founding of the town Choteau, while others were burned by the natives or abandoned. By the late 1840s, changing fashions resulting in a decline in demand for furs and the depletion of the beaver ended this occupation. Missionaries, led by the Jesuits, came on the heels of the trappers and throughout the 1840s and 1850s were active along the Front. The nutritious prairie grasses enticed cattlemen who established many of the ranches that exist on the Front today. By 1867, in order to “control the Blackfeet,” as they claimed, the US Military, through the establishment of Fort Shaw, made its presence known. Eventually, the “blue coats” forced the Blackfeet to a reservation that been set aside for them.

Extremely important as well, though, is the area’s conservation history. In the early years of the 20th century, wildlife had virtually disappeared from the Front and the eastern Bob Marshall. Alarmed, folks from all political persuasions and interest groups came together. Realizing that wildlife needed sheltered habitat to thrive, game ranges and other protected lands were established. The US Forest Service joined in by setting aside three primitive areas that would in 1940 become part of the newly created Bob Marshall Wilder-



The human imprint on the RMF is minimal  
- Rick & Susie Graetz

ness. Today, the abundant wildlife population and outstanding habitat is a result of the work of many people putting their shoulders to the wheel to make it happen. A tradition of collaboration and compromise for the sake of preservation was established on the RMF and carries on today.

## Weather

Weather and climate on the Rocky Mountain Front can be as wild as the landscape it affects. Records and extremes are commonplace. Wind gets top billing, especially the strong chinooks that can exceed hurricane force—75 mph at times. Native Americans called these warm winds snow eaters. Heating up at 5.5 degrees for every thousand feet they descend on the east side of the Sawtooth Range, chinooks can melt or evaporate two feet of snow overnight.

Air passing over the Northern Rockies is forced through gaps in the Front’s wall accelerating its speed. Gusts of 143 and 133 mph have been recorded. And just south of East Glacier, the average monthly wind speed is almost 25 mph.

With nothing but open prairie to the north of the RMF, cold arctic air masses taking leave of the polar regions rush unimpeded southward and can lower temperatures quickly and dramatically. One day in January of 1916, thanks to a warm chinook wind, Browning was enjoying a balmy 44

degrees; in less than 24 hours, the temperature dropped to 56 degrees below zero. These frigid fronts with rising winds coming from the north and northeast can unload significant amounts of snow at the lower elevations. This activity is known as upsloaping. In February 1972, on Marias Pass, a low crossing of the Continental Divide and Front Range, one storm brought



on by a rising air event left 77.5 inches behind before it abated.

### Our Suggestions to You

To understand the infinite value of this majestic piece of our state, probe its roads and trails in all seasons. In the long light of a summer evening, watch as all the details of the heights slowly fade leaving a purple silhouette on the horizon. Catch the intense color changing first light of a rising sun on Castle Reef or Ear Mountain. In autumn, marvel at the delicate gold of the aspens and cottonwoods in the canyons of the Teton River. On a bright January day, from the high point of the highway between Augusta and Choteau, scan the white immensity of what lies before you. And on a late May or June evening, inhale the intoxicating aroma of wildflowers that blanket the undu-

lating hills.

There are several good locations to access the Front. In the north, from Dupuyer on Hwy 89, a route leads west to Swift Reservoir and the north and south forks of Birch Creek, entryways to The Bob Marshall and Great Bear Wilderness areas. Seven miles north of Choteau, also on Hwy 89, a road heads toward the Front and the south and north forks of the Teton River. The route splits just before the mountains with one following the South Fork and the other the North Fork past Teton Pass Ski Area (try it next winter) to the West Fork of the Teton. As these roads penetrate deeper into the landscape than most others, it is an ideal place to experience the uniqueness of the area.

On Hwy 287, the town of Augusta provides easy entry into the southern Front. One byway goes west to the Sun River Canyon and Gibson Reservoir and another to Benchmark, a favorite horse route into the “Bob.” Highway 435 extending west and south of Augusta, points to Bean Lake and the Dearborn Canyon.

Much has been penned about the Front, eloquent words all; but in our opinion, the late A.B. “Bud” Guthrie Jr.’s passion, love and commitment to the landscape he called home spill out in short poetic refrains that resonate a call to action within us. A Pulitzer Prize winner and the originator of the term Big Sky, Bud just might have said it best with these two...

“What price, the sight of an antlered head through the pines? What price, the silver shimmer of a trout as it rises to the fly? What price, the sight of a moose in an overgrown pond?



Above: Birch Creek pours out of the RMF – John Lambing photo  
Left – Ear Mountain in autumn from the Teton River - Rick & Susie Graetz

How much for a mountain? How much for a glimmer glass lake, for a clear and limitless sky?”

“The subject today is the Front, the great Rocky Mountain Front in which I live. The question is how to preserve it and its values. I wish I knew a way. But one thing I am sure of is expressed in an old quatrain, so old that it has no attribution. It goes this way:

*“The law locks up the man or woman who steals the goose from off the common,  
But lets to greater felon loose  
Who steals the common from the goose.”*

Unless we are vigilant, the Front will be stolen from us geese.

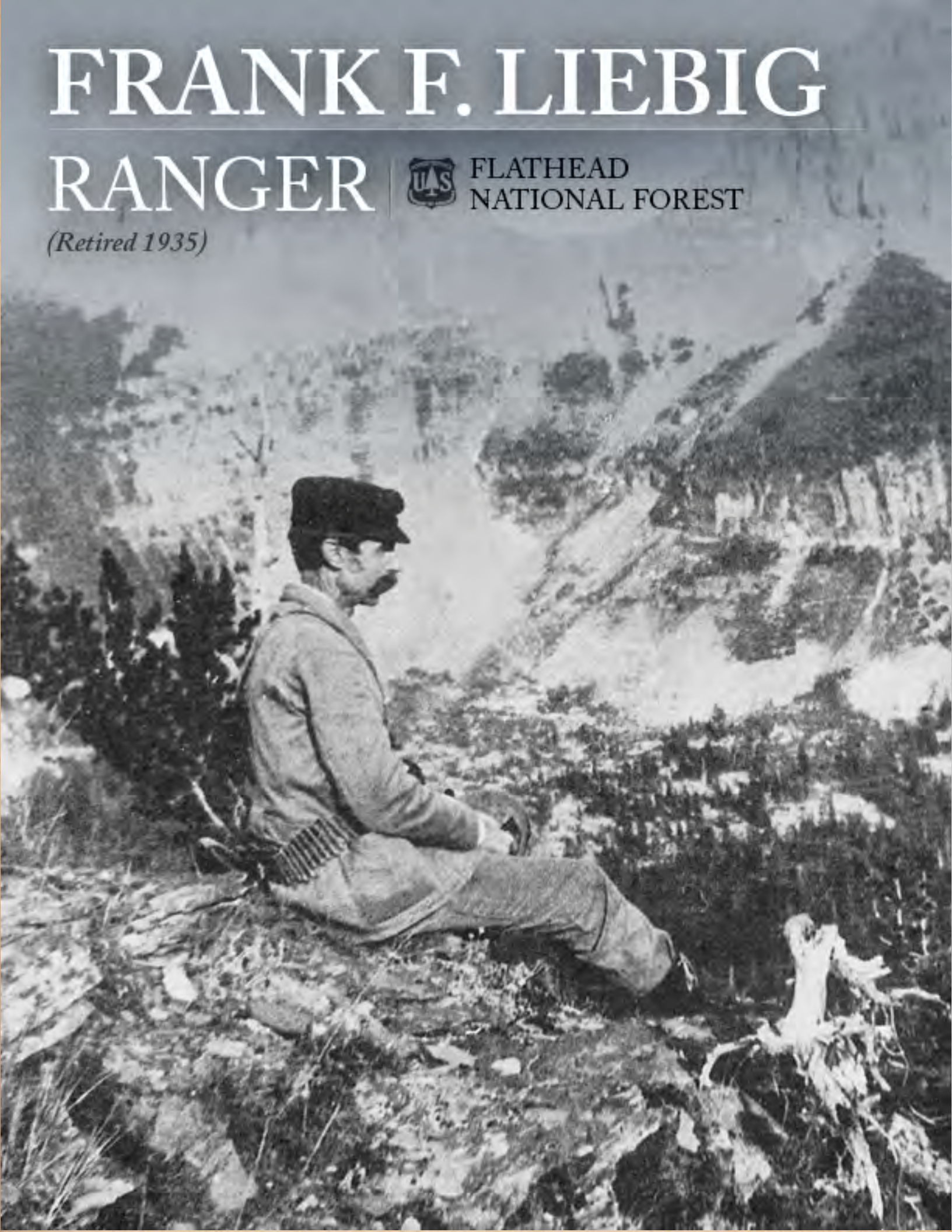
I have spent time and energy, especially in these latter years, informing, alerting and haranguing people to the dangers of losing our natural inheritance. The Front is unique. Its peril is real. Solutions are hard to find. To use an old Western expression, I’m reaching the end of my rope. But I shall never stop caring. Today I put the job in your fresher, stronger hands.

Fight for the Front, you younger folk. Find the answers.”

# FRANK F. LIEBIG

RANGER  FLATHEAD  
NATIONAL FOREST

*(Retired 1935)*



Frank Liebig viewing the Garden Wall from Granite Park (Courtesy of Carol Guthrie)

Editor's Note: The following is taken from the U.S. Forest Service publication *Early Days In The Forest Service* Volume 1. In December 1944, Evan W. Kelley, the Regional Forester for the Northern Region USFS, headquartered in Missoula, Montana, sent a letter to the people of Region One asking for stories to be recorded on paper so as to preserve the memories of the early days and the men who built the foundation of the region and the USFS.

Frank Liebig, who penned this piece, served as a ranger on a Forest Reserve that would eventually be transferred from the Forest Service to the National Park Service with the establishment of Glacier National Park in May 1910.



*Kalispell, Montana  
January 1944*

*Dear Mr. Kelley:*

Your letter of December 29, 1943, at hand.

I am no writer, but will make a stab at it, and hope it will not all go into the waste basket.

In 1898-1900 I was a foreman on a cattle ranch near the southwest corner of the Bearpaw Mountains, about sixty miles east of Big Sandy and close to the edge of the Bad Lands. I didn't like this country as there was not enough timber to suit me, so I went back to the west side of the Rockies and stopped at Belton, Montana, to look around. This was in August 1900. Incidentally, the Great Northern depot at that time was a derailed box car. Here in Belton a small oil boom was in progress. Some party had found oil seepage around the Kintla Lakes on the North Fork of the Flathead River not far from the Canadian boundary line. Some men from Butte were in Belton, going up to the Kintla Lakes to take up oil claims. The people hired me to survey out their claims, which I did for four months.

After that period I quit the company and went on my own hook - even took up oil claims in the Belly River on the east side of the Rocky Mountains which is now in Glacier National Park. I made this trip to the head of Lake McDonald by canoe, thence walked up McDonald Creek for ten miles, thence Mineral Creek, to the head, and, crossing the Chiney Glacier, hit the head of the Middle Fork of Belly River, as far as Glens Lake and the Canadian boundary. I made the foot of Lake McDonald my headquarters.

In the early spring of 1902 on one of my trips to the foot of Lake McDonald, a man was waiting for me who said his name was F. N. Haines and that he was “looking for a good man that would like to work as a Forest ranger for “Uncle Sam.” He said he had heard much of me, that I didn’t drink or get on a spree, and the main thing was that I knew the country and was not afraid of anything. He then asked me if I would like to tackle the job. He said the pay was \$60 a month, board myself, and furnish a horse or two. I told him I made twice that much with my oil claims. But he insisted that I should take the job, as there would be some promotion and higher pay if I stayed with the Service. So I finally consented and went with him to Kalispell where I had to fill out several forms nearly two feet long and go before a notary public, also get my citizenship papers all fixed up, and then the whole works was sent to the Department of the Interior in Washington, D. C. This was about the end of March or first of April 1902.

After that I went up the North Fork and the east side of the Rockies, and forgot all about my ranger’s job. When I finally came home to the foot of Lake McDonald, I found in the Belton post office letters from Washington that I was a Forest ranger for over a month, and had to go to Kalispell to take the oath of office and get more definite instructions.

The supervisor gave me a notebook or two and a nice shiny silver badge. It said on it, “Department of the Interior, Ranger.” The supervisor also gave me a couple of big sheets or forms, on which I had to state what I did every day, and send the sheet in at the end of the month to Kalispell. This report was sometimes half a month late, and the officials in Washington could not understand why I wasn’t on time. I guess they



Frank Liebig (Courtesy of UM Archives)

didn’t know that I had half a million acres to patrol, with very few trails in the area.

Then the Supervisor gave me a double-bitted axe and a one-man crosscut saw and a box of ammunition for my 45-70 rifle, and told me to “go to it, and good luck.” He said, “The whole country is yours, from Belton to Canada and across the Rockies to the prairie or Waterton Lake and the foot of St. Mary’s Lake.” It comprised nearly the present Glacier National Park.

The instructions were to look for fires, timber thieves, which were plentiful all along the Great Northern Railway, and to look for squatters and game violators. I sure had my hands full, and then some.

A ranger and a mounted police were on the same footing. People always liked us a long ways off. More than once I have been waylaid, but, like the preacher and the bear, the Lord was on my side. My reputation as a good shot or Uncle’s badge buffalowed the trespasser, and I always came out on top.

I guess the only time I was a little worried was once when word was brought to me by some homesteader that a bunch of Cree Indians had come across the Canadian border on the North Fork with about 10 or 12 lodges and 40 dogs and were killing all the moose and smoking the meat. I sent word to Ranger Herrig, stationed at Fortine, to meet me at Round Prairie near Bowman creek. I also took F. Geduhn, a homesteader from the head of Lake McDonald, and we all met at the place mentioned.

F. Herrig was one of Roosevelt’s Roughriders, and a quite imposing figure. He generally rode a dark bay horse, decked up with a silver-studded bridle and martingale. He wore mostly high-top boots, a big 44 strapped on his belt and a 45-70

in a scabbard, and he wore the ranger’s badge always in plain sight, and a big Russian wolfhound was his steady companion.

Well, to make the story short, we found nine tepees north of Kintla Creek near a big willow flat. And we found plenty of meat over some poles with a fire underneath. Ranger Geduhn held my horse while I walked up to the tepees, where three or four Cree Indians were cutting up some meat. Ranger Herrig rode just fifty feet behind me, his rifle all ready for action. I had my rifle in my hands too. When we got close to the camp we were met by about twenty or more dogs. Men came from everywhere, and all the squaws and kids ran into the tepees.

I hollered for the chief to come out. Finally a diseased-looking Indian stepped out and made himself known as the responsible party. I told him that he came across the line and not to kill any more moose. He said they had had a fire across the line which drove all the moose into the United States and they were hard up for winter food. I told him again that they ran all the

The Middle Fork of the Flathead River – Rick & Susie Graetz





Rangers Liebig and Reynolds and assistants, Northern District of the Lewis and Clark Forest, 1905 (Courtesy of Carol Guthrie)

game out of the country with their dogs.

Some of the Indians didn't want to go. I told them they had to break camp next morning or we would kill all the dogs. The Indians could not exist without the dogs. These dogs were trained to surround a moose and hold him until the Indian comes up and kills him.

We went to their camp next day about the middle of the forenoon, and no signs of breaking their camp. This time Indians were hiding behind tents and trees, no squaws in sight, but plenty of dogs. The old Indian chief was there to meet me and said they couldn't move for a week yet until all their meat was cured.

First thing three or four shots crashed out, and a couple of dead dogs rolled on the ground. Ranger Herrig couldn't stand it any longer, and wanted to mop up all the dogs. I got ready for action also, thinking that the Indians sure would get even with us. So I hollered to Herrig and Geduhn to hold their fire for a minute to see what the Indians had to say. Everything was confusion in the camp, and I thought lead would be flying in our direction any second. Then the chief hollered and told me they would move immediately.

The lodges went down, and in three hours they were on the trail up the North Fork and across the Canadian border. We hung around for several days, but the Crees stayed away.

The very next year Ranger Herrig saved me from drowning. It was in October, and bitterly cold nights. Sheet ice was floating down the North Fork. Riding up the river, I saw a big smoke rising up in the Coal Creek area on the west side

of the river. I rode to the head of the Big Prairie to get a couple of settlers to help me on the fire. Just before I got to the place the horse stepped in a badger hole and nearly broke his leg. He was useless for a week. When I arrived at the homesteader's place nobody was home. I put the horse in the corral to look the fire over on foot.

Before I got to the river here comes Ranger Herrig to pay me a visit. He saw the smoke also. And we decided to tackle the fire at once. We got a mattock and a couple of axes and left word for the settlers to follow when they came home. When we came to the river crossing, which was about 100 yards wide and 2½ feet at the deepest place, I had to wade across the river, as his horse would not stand for a double load. So he crossed over with the horse, and the big Russian wolfhound, and myself following. I had off my shoes and pants and underwear, to be dry when I got over. Before I got two-thirds across I got the cramps in my legs in the ice-cold water. My legs refused to move, and I had to drag myself on my hands to the shore in about 20 inches of water. Herrig just got across, when he was looking and saw what happened. He rode the horse right back and caught me just in time and dragged me to the shore. I lost my memory for 20 minutes, and when I came to Herrig was rubbing my body and legs to get circulation in my body started. After an hour I was in shape to hit the trail again, and had quite a stretch of the fire surrounded when the settlers arrived. One settler had a horse which didn't mind a double load in crossing the river, and I sure made use of it. The fire was either a lightning hangover, or started by hunters. I think it was the latter.

Our first ranger meeting, if I remember it right, was held at the foot of Lake McDonald in 1904,



Preston Park in Glacier National Park – John Lambing

with about five or six assistant rangers helping out, a Mr. Sherman and a Mr. Clapp from Washington, D.C. visiting us, and mostly supervising the meeting, telling us there would be a great change in the Forest Service in the near future, which was true. The very next year the Forest Service was transferred from the Department of the Interior to the Department of Agriculture.

Under the old Department our forest was called the Northern Division of the Lewis & Clark Forest Reserve. The present Flathead and Lewis & Clark Forests were once one Forest and called the Southern Division of the Lewis & Clark Forest Reserve. Its first Supervisor was a man by the name of Moser. He lived in Ovando, and he made the round trip through the Forest once in a year - at least I only saw him every other year in Belton. And the first Supervisor stationed in Kalispell was Page Bunker.

A man by the name of B. Daughs started at Lake McDonald as a guard, now retired also, helped me in the early days of 1904-06 on trail work.

We were working at one time on the Continental Divide near the headwaters of the Belly River and Mineral Creek when we spotted a big smoke in the North Fork Valley between Quartz and Bowman Creek, so we cut across country, below Vulture Peak and down Logging Creek and Lake. The shortest distance not over 20 miles, but what a country. We made it, but that was all. Horses nearly all in, and ourselves, too. Not much clothes left on us either. Half the time a trapper's trail and the other half a mountain goat's trail. And when we finally got to the fire a thunderstorm came up. Lord, how it rained, and how cold we were. We didn't say much, but we thought a lot - nothing pleasant either.

In 1905 or 1906, I made a round trip across the Rockies and back via Flattop Mountain and down to Waterton Lake, where the million-dollar Prince of Wales Hotel is now. At that time there was only a dim trapper's trail to follow up and a trapper's hut to stay in overnight; but as a rule I preferred to stay in my small tent, which I always carried on my pack horse. On these trips

I stayed quite often overnight with the Mounties in the barracks at Pincerton. These redcoats were sure a fine class of men and helped me out on several occasions, one time even putting out a small fire for me. I was treated like I belonged to them, and they were much interested in our affairs. I used to stock up with grub at a store in Mountain View, a Mormon settlement near the Belly River, and always found one or two redcoats hanging around. One overnight stopping place used to be at Babb's near the foot of the lower St. Mary's Lake and back into the good old U.S.A. Here we had a small sawmill near the lake and I had to check up on the timber and stumpage. At the narrow on upper St. Mary's, another old hut provided shelter for the night. Sometimes I stayed in the old mining town Altyn if I returned over Swift Current Pass. By St. Mary's Lake I came out over Gunsight Pass and Sperry Glacier basin and thence to Lake McDonald.

On one of these trips coming in across Gunsight Pass, I came in late one evening into Sperry



Old cabins near lake McDonald – Glacier NP Archives

Glacier basin with my horses, ready to set up my tent for the night. I saw a crowd of people a little ways off and heard someone saying, "There is the ranger now." And soon some people came running over and said a woman had fallen into a crevasse in Sperry Glacier and they didn't know how to get her out. In the meanwhile they had sent a man down to the hotel ten miles away to get some ropes. No telephone on the Forest yet. The first telephone was installed from Belton to the hotel in 1910.

When the people told me about the woman falling into the crevasse, I turned the horses loose in a hurry, and grabbed two lash ropes and the ax, and told the men to come on. The

With daughters Jean and Frances, Lake McDonald, 1910  
(Courtesy of Carol Guthrie)



place was a quarter of a mile to the edge of the glacier, and about 250 yards across the ice to the crevasse. I cut a stunted green fir tree four or five inches and five feet long, and had the men pack it along. When we got to the place three or four men stood at the place where the woman slid in. Two women and three more men came along, with them a minister of the gospel by the name of Falls - a real mountaineer. He died in Seattle two years later. I selected a place on the lower side of the crevasse, and set the green post into the hole and packed ice all around to make it fairly solid. Then tied the two lash ropes together and tied a number of knots into the rope for a good hand hold. Then tied the rope to the post sticking above the ice and told a couple of men to hang onto the post so it couldn't slip out and threw the rope into the crevasse.

I could see the woman lying almost horizontal in the ice. The crevasse was about four or five feet wide on the top, and came together to a knife edge on the bottom, about 35 feet down. She was wedged in at about 30 feet, and dead as a door nail. (So we thought.)

I slid down the rope, and had some sweat worked up, and when I got down (Was it cold!) I tried to hang onto the rope and pull the woman loose, but couldn't budge her. The walls of ice were smooth as glass, and I could not get a foothold. We thought she was dead anyhow, so I stepped on her body to rest my feet, and told the men to haul up the rope and send the ax down, which they did. Then I chopped a hole on each side of the ice big enough to put my feet in for a hold, then sent the ax up again to the top. When the rope came down again I started to pull the woman loose and nearly pulled her arm out, she was wedged in so tight. But I finally got her



On patrol after the 1910 Burn (Courtesy of Carol Guthrie)

loose, having a foothold chopped in the ice, then managed to get the rope around her waist and the men pulled her up to the surface and then let the rope down again.

I was so frozen by this time I was in doubt that I could climb the rope, so I put it under my arms and was hauled out by the men too. When I got out I could hardly stand up I was so cold, and had to stamp around a bit to get my blood in circulation again.

We had plenty of help by this time. Some brought a lantern and candles from the camp, and it was getting dark. There was no stretcher, so four men got hold of the woman, one on each leg and one on each arm, one ahead with the lantern. When we got to the edge of the ice there was a narrow trail leading down through the rocks and around some cliffs, one over 20 feet high. We thought it would be safer for all of us to let the body down on our rope over the cliff. Someone went ahead to receive the body below. They had a palouser going, and we could see the light below. When the body was half-

way down, the woman began to spin and hit her head on the rocks, cutting quite a gash in her head, which must have brought her to. Because she let out an awful yell, which scared us half to death, as we had all thought she was a goner for sure. Then she fainted again.

We got her to the camp finally, where they had a big fire going and lots of hot coffee and lots more of hot drinks, and we all had our share of the hot brandy. Even the minister of the gospel and yours truly, even if I was on the water wagon. I had my share and don't know today how I got into my sleeping bag only half undressed. I think someone else must have helped me.

A doctor came up towards morning and pronounced the woman O.K. Some men and women filling her up all night with hot brandy, until she was glorious drunk. We sure had a late breakfast next day. All thought I had done a wonderful job. But I pulled out ahead of the crowd in order not to attract so much attention. I didn't even stop at the hotel and went direct to the ranger station. The woman never even said



Bowman Lake and Glacier's Livingston Range – Rick & Susie Graetz

thank you for getting her out of the glacier. She surely would have been dead if she had stayed in the ice all night. But such is the world.

In 1903, I came across the divide from the Camas Lakes on foot, and cached my canoe in the woods to cross Lake McDonald to the other side. A big swell was on the lake and four-foot waves, but not dangerous for the canoe, and I could handle it without trouble. When I got nearly across I saw a bunch of people standing on the shore with their arms stretched out as if they were pointing. I thought at first they were watching me and the canoe disappearing in the trough of the waves, and then on the crest of the next one. It finally dawned on me that the people were pointing in another direction. I began to look around, and when I came up on top of a high wave I spotted a rowboat full of water and a man and woman hanging on to it.

I worked the canoe close to the outfit to look

her over. The people were pretty well chilled and nearly done for in the cold water. The woman said she could swim a little, but the man could not. When I got real close, the woman let loose of the boat and grabbed the canoe, nearly upsetting me. I had to hit her on the hands with the paddle and once over the head, partly stunning her, before she let loose, and moved to the end of the canoe. . It was a ticklish business to get her into the canoe without upsetting. I got hold of her hair and, watching my chances, I told her to kick hard with her feet, which she finally did, and I managed to drag her into my canoe. I also got it half full of water, and I had to bail water with a five-pound lard pail to beat the band. The woman had fainted when she got into the canoe. After I had most of the water out so that I could manage my canoe again, I went carefully up to the man and tried to give him the rope from the canoe to hang onto so that I could tow him to shore, but he was all in and would not let loose of the boat, although every other wave went over

his head. I finally got the rope around under his arms and told him to keep his head above the water, and started for the shore.

It didn't come out the way I had it planned, as the man rolled over in the water and was half drowned when I reached shore. Several men, women and children were on the beach, and three or four rowboats, and the men were afraid to go out and help. They sure would have perished if I hadn't come along. Neither one of them ever said "Thank you." They all thought it was a ranger's job to do all those things. The woman is still living here yet in Kalispell.

I think it was late in the fall of 1907 when I received a letter from the Supervisor to meet Forester Pinchot and a party from Washington, D.C. at Swift Current Pass to take them down to Lake McDonald and thence to Belton. It was a two-day trip from the head of the lake to Granite Park, where I had an old mining cabin

which was ready to fall in. Here was good horse feed. From the cabin it was about two miles to the pass.

During the night the weather changed, and by noon a regular blizzard was raging. Nevertheless, I hit the pass by noon and hung around there for several hours, when I finally gave up, intending to go back to the miner's cabin. I knew the party never could make it over the pass in such a storm. When I turned back I couldn't see 25 feet ahead. The horse trail was obliterated by the snow, and everything looked alike to me, and the horses refused to go ahead. The storm was getting worse. I had to get off the saddle horse and lead both of them. I was floundering for over an hour in the snow when I realized I was lost. I found a clump of scrubby whitebark pine, and got some shelter. Here the horses quit altogether and turned their heads with the wind. I wanted to go alone to hunt for the cabin, but was afraid I couldn't find my horses again.



I stuck it out for an hour, trying to figure out where I was. It was an area only two square miles, but, in a snowstorm like this, a quarter mile is plenty big enough. I finally dragged the horses after me again, and by good fortune hit a patch of heavy timber that looked rather familiar to me. I left the horses and began to scout around, and found a blaze on a tree and discovered I was in the trail. I hit the old cabin in 15 minutes. I went back at once and got the horses and gave them a feed of oats in a sheltered place behind the cabin.

And how the storm raged all night! Three feet of snow in the morning, and the blizzard stayed another day. I had to go half a mile before I left Granite Park to get down into the valley. It took me one hour to make that half mile. By noon I was on the bottom of the valley and found only one foot of snow, and hardly any wind, but you could hear the storm still raging around the peaks.

A week later, I received a letter stating that the party gave up the trip across the Continental Divide after they got as far as to the foot of Swift Current, the miners advising the party that it wouldn't be safe. A good thing they took the hint.

More than two dozen horses lost their lives over the cliffs and one person was killed while I was ranger over that Continental Divide district.



I stuck it out for an hour, trying to figure out where I was. I was an area only two square miles, but, in a snowstorm like this, a quarter mile is plenty big enough.

- Frank Liebig



I had always a craze to have a pet bear or deer or something around the station. In 1905 or 1906, Supervisor F.N. Haines and myself made a trip after Christmas to Avalanche Lake to see if a bridge could be built across the creek without much expense. On the head of Lake McDonald we had about a foot of snow, but near Avalanche Lake there was about three feet and we had to use our snowshoes. When we got to the foot of the lake we saw a bunch of mountain goats crossing on the ice, going from one shore to the other. The goats had a regular trail through the deep snow, only their backs sticking out above the snow once in a while.

I said to the Supervisor. "Here is a chance to take home a live goat without much trouble." Mr. Haines was skeptical, and said I couldn't

handle one of the big goats alone. If I picked a real small one, we might get one to the station between us two. I told him, "Just watch my smoke." I was in good shape them days and didn't take my hat off for nobody.

Anyhow, I cut across with my snowshoes and headed the goats off before they reached the shore, and fell on the nearest goat that was handy, and it happened to be a good-sized one at that. There was no time for a selection. In that narrow trench were goats everywhere, one climbing over another to get away. I thought I surprised the goats, but the surprise was on me. I was on top of the goat when I started, trying to hang on to his head; the next thing I knew I was on the bottom and the goat on top. I had snow and goat hair and what-not in my eyes and down my neck. He tried his darndest to hook me with his sharp horns, and I had my hands full to keep him from hooking me in the face or other parts of the body. His feet got lodged in the webbing of my snowshoes and tore most of the webbing out. Half of my pants and coat was already gone when the Supervisor came up to

Lake McDonald - Will Klaczynski



help me. But what did he do? Lay down in the snow and laughed until the tears ran down his cheeks, and me getting more mad every minute. Finally one snowshoe came off, and not long afterwards the other. After that I could handle him better and straddled his back and just watched out for his horns. He could kick like a mule, but his hooves were not as sharp as those of a deer. I rode the blooming goat back and forth in that ditch until he was plumb petered out and the Supervisor yelling, "Ride him, cowboy!"

I told the Supervisor to bring my pack sack and what was left of my pants. I had some rope in the pack sack and fixed up one of my broken snowshoes and tied a piece of rope around his horns and one piece around his hind leg. I thought we could lead him home. It worked fine in the deep snow on the ice and while the goat was still petered out. But when we hit the timber and solid footing the goat changed tactics. He was leading us, instead of us leading him. Once or twice the Supervisor couldn't hang on to his rope, and the goat charging me, and I had the choice either to play hide and seek behind a tree



Liebig at Lake McDonald (Courtesy of Carol Guthrie)

or lose another piece of my pants, which, by the way, the supervisor said “belonged to the Adam and Eve variety.” I finally tried to put my coat over his head. I thought he would lead better; and in the shuffle the rope came off his hind legs, which the supervisor had to hang onto to keep him from running me over. After the rope came off he was too dangerous to handle, so after he got tangled up in the brush with the rope on his horns I managed to cut the rope and set him free. It was just as well. If we had had to tug the goat another mile we would have had no clothes left on except our rubbers and socks, and they were all wringing wet.

The very next spring I packed down a goat kid from above the station in my pack sack. But as he refused to drink any milk, in a couple of days I packed him back up again on the hillside where several nanny goats and kids were feeding. I had quite a time getting rid of kid, as he tried to follow me. I finally stuck him behind some big rocks and ran a little distance and when the little fellow couldn't find me he wandered off. I was watching, and when the big nanny goats spotted the little kid running around, came over to investigate. When they got near enough so the little kid could see them he ran over to one of the big nannies and wanted his dinner

right away. But she bumped him so hard that he rolled over several times. Another nanny came up and smelled him all over, bumped him once or twice but not very hard, and by good luck took him over and let him have some of her milk. BOY, was the little fellow hungry! It was a sight worth seeing, and I swore never to take a little goat home again. I had dozens of chances afterwards. I even had young mountain sheep in my hands, but I never took one away.

I have one more item I would like to mention. Our regular full-fledged ranger meeting was held on April 4, 1910, at the Point of Rock's Ranger

Station near Olney, Montana, on the Blackfoot National Forest. I still have the photograph (a four by six-inch) in my album, and I prize it highly. I don't know who has the film. I have all the names of the men and the Supervisor and Mr. Silcox, at that time District Forester. Mr. Silcox, with his derby hat, look more like a lawyer than a forester.

Best wishes to you all. /s/

*Frank F. Liebig*

Photographer Spotlight

# Tony Bynum



THUNDER STORM ON THE BLACKFEET INDIAN RESERVATION



HORSES ALONG THE ROCKY MOUNTAIN FRONT,  
BADGER TWO MEDICINE AREA, BLACKFEET RESERVATION



MATURE MULE DEER BUCK RESTING DURING A SNOW STORM,  
ROCKY MOUNTAIN FRONT



PURPLE LUPINES, RISING WOLF MOUNTAIN, GLACIER NATIONAL PARK



BUFFALO HERD, BLACKFEET INDIAN RESERVATION



SUN DOWN ALONG THE ROCKY MOUNTAIN FRONT, BLACKFEET INDIAN RESERVATION



SNOW GEESE, FREEZEOUT LAKE WILDLIFE MANAGEMENT AREA



WINTER SNOW IN THE BADGER TWO MEDICINE, ROCKY MOUNTAIN FRONT



AERIAL PERSPECTIVE, LOOKING NORTH ALONG THE ROCKY MOUNTAIN FRONT



CLEARING SKIES ALONG THE ROCKY MOUNTAIN FRONT SOUTH OF AUGUSTA, MONTANA

FOLLOWING PAGE: CURLEY BEAR MOUNTAIN, GLACIER NATIONAL PARK







CHIEF MOUNTAIN, GLACIER NATIONAL PARK

Tony Bynum is an explorer and adventurer at heart. “Trails are for hikers, I’m an explorer,” sums up Tony’s approach to the world. He photographs a wide range of outdoor subjects but is most well known for his provocative and action-filled North American wildlife images. That might be hard to imagine after you see some of his more popular landscapes. His passion is for the Rocky Mountains of Montana and Alberta, Canada, but Tony travels much farther to meet the demands and requests of his clients.

Tony also shoots commercial images for outdoor equipment manufacturers, and his work regularly appears in magazines you’ve likely seen including, *Field and Stream*, *Outdoor Life*, *Sports Afield*, *The Food Channel Magazine*, *Delta Sky*, *The New Yorker*, *National Geographic for Kids*, *Popular Photography*, *Montana Magazine*, *Montana Outdoors*, and many more. In 2010 one of his Glacier images was selected for the cover of Glacier National Park’s 100 year anniversary book, “The First 100 Years” by C.W. Guthrie.

That book has since gone on to win numerous awards. This year you can see some of Tony’s most creative and expressive work on the cover, and inside the *2012 Montana Travel Guide*, produced by the Montana Office of Tourism.

Bynum lives year round in East Glacier Park, MT with his 10 year old daughter. He’s recently started a self-funded conservation photography project focused on energy and oil drilling along the Rocky Mountain Front and the Black-foot Indian Reservation in Montana. “Black-foot Oil Drilling - an interactive Map.” Tony is

on the Board of Directors for the Professional Outdoor Media Association, the East Glacier Park School, a principal member of the Glacier Two-Medicine Alliance, photography editor for two magazines, writes a regular photography column for *Western Hunter Magazine*, and writes for three blogs. Check out his web site at, [www.tonybynum.com](http://www.tonybynum.com), you will link to his other images, his blog, and his Oil Drilling Project.

<http://tonybynum.com/>

<http://www.glacierimpressions.com>

# WEATHER EXTREMES

In and near the Crown of the Continent



Sawtooth Reef and Sun River Canyon west of Augusta - A Chinook wind in progress on the Rocky Mountain Front . The wet air is rising over the Continental Divide releasing its moisture on the west slope and then descending the east face of the mountains drying and warming at rate of 5.5 degrees for every 1,000' it lowers - the adiabatic rate in meteorology terms. The wind this day easily exceeded 50 mph. The Native Americans called these winds "snow eaters" as they could evaporate and melt two feet of snow overnight. *Photo credit - Susie Graetz*

## Temperature:

Maximum:

100° F at several lower elevation locations

Minimum:

-70° F near Rogers Pass, MT

-63° F at Lake Louise, AB

Out of season extremes:

-5° F at Polebridge, MT in May

-30° F at Summit, MT in October

Temperature change:

In less than 24 hours at Browning in January the temperature dropped from 44 degrees to 56 below.

## Snowfall:

One Storm - 77.5" at Summit, MT Jan 17-22, 1972

One month: 131.1 at Summit, MT 1972

Maximum average annual: 242" at Summit, MT

151" at Waterton, AB

## Precipitation:

Extreme maximum one-year total: 138.2" at Grinnell Glacier in 1953-54

Maximum average: 79.75" at Flattop Mtn, MT

Greatest monthly precipitation total" 28.30" at Flattop Mtn, MT in December 1996

Greatest one-day precipitation in mountains: 6.00" at Flattop Mtn, MT on Nov 6-7, 2006

One day extreme: 6.30" during a thunderstorm in June 1995 in southeastern Alberta

## Winds:

Peak Gust: 143 mph at Miller Colony, MT

133 mph at Heart Butte, MT

133 mph at Logan Pass

Highest monthly average wind speed: 24.8 mph at Deep Creek (11 miles SSE of East Glacier) in November

# AMERICAN PIKAS

## LITTLE CHIEF HARES OF THE WEST

By Allison De Jong



The first time I heard a pika, I was hiking along a talus slope on the Bass Creek trail in the Bitterroot Mountains. I would have imagined the short, shrill sound to be some kind of bird call were it not for my husband's excited whisper—"Listen. That's a pika!" Following his pointing finger, my eyes fell upon a small grey ball of fur that was nearly camouflaged among the surrounding rocks, and, as I watched, it darted out of sight beneath the tumbled scree.

Since then, I have heard pikas several times while out hiking, though I've only been quick enough to catch a glimpse of this smallest member of the rabbit order on one other occasion. While not always easy to spot in the wild, in the past few years pikas have come increasingly into the public eye due to their decreasing population and studies linking this decline to the changing climate.

The American pika (*Ochotona princeps*), also called "rock rabbit" or "little chief hare," is one of 30 species of pika worldwide, and lives on talus slopes in alpine ecosystems from California and New Mexico north to Alberta and British Columbia. While in the northernmost reaches of their range they may be found at relatively low elevations, they generally live between 6,000 and 13,000 feet above sea level. Pikas are about the size of a potato, and at first glance rather resemble one with their grayish-brown coloring and lack of a visible tail. Up close, an observer will notice the pika's round ears, whiskered nose, and tiny paws—and, in many cases, its mouth full of grasses and other plants, which it tirelessly harvests in the summer and early fall.

The talus slopes and rocky areas that pikas call home are generally near meadows, from which they collect plant material to sun-dry

This information was provided by Dave Bernhardt of the National Weather Service in Great Falls, Montana

# HOW DO YOU KNOW IT'S A PIKA?

- Size: 6-8½ inches long
- Weight: 4-6 ounces
- Color: gray or brown, sometimes a cinnamon shade; fur is more overall gray and is twice as long in the winter.
- Tracks: mostly found in snow, occasionally in mud. Five toes on forefoot, four toes on hind foot; hind print slightly larger.
- Scat: Small, dark oval pellets. Fresh scat is green and moist; pikas will eat their scat to glean the nutrients, and the resulting, twice-processed scat is dark, dry and looks like peppercorns.
- Vocalization: a shrill whistle or high-pitched peep, similar to the squeak of a dog toy. During mating season, males may make a long call sound.
- Overall appearance: ridiculously cute.

and form into haystacks to supplement their winter diet. Unlike many mountain animals, pikas neither migrate nor hibernate, and must therefore store enough food to get them through a winter of wakefulness. Their dense fur helps them survive the cold temperatures, as does spending most of the time in dens and tunnels in the protected subnivean (“under the snow”) layer. Sometimes their harvested stores don’t last through the winter, and pikas must then forage on lichens and cushion plants under the snow until spring melt.

Pikas breed in the late spring, usually in May or June, and will sometimes have a second litter in July or August. Litters consist of two to six young, which grow quickly, reaching their adult size in about three months, though they do not reach sexual maturity for about a year. Pikas may live as long as seven years, but most live for only three or four, largely because of predation by eagles, hawks, owls, weasels, coyotes, foxes and bobcats.

## Life in a Stressful Climate

Aside from the usual challenges of survival, pikas are now faced with an increasingly pervasive threat: the changing climate. This past July, April Craighead, a wildlife biologist from the Craighead Institute in Bozeman, spent an afternoon at the Montana Natural History Center leading a training for citizen scientist volunteers interested in helping with a statewide pika survey. We learned that pikas, because of their thick fur and high core body temperature, are extremely sensitive to heat. If unable to find shelter in a cool place, they can overheat and die in as little as six hours if exposed to temperatures above 80 degrees Fahrenheit.

According to Craighead, because they are

sensitive to even small changes in temperature and occupy such a narrow ecological niche, pikas are an ideal indicator species for climate change and its environmental and biological effects. Several studies on pika populations and habitat have been conducted in recent years, with a clear connection emerging between warming temperatures and decreasing pika populations.

With their need to live in high, cool, rocky habitats, pikas are essentially island dwellers. They live in alpine areas; they do not migrate; they do not travel long distances—some spend their entire lives within a half-mile radius—and thus they largely remain in isolated pockets of suitable environments scattered across the West. When average summer temperatures go up, pikas have no choice but to move up the mountainsides, much as a creature living on an island must move to higher ground when water levels rise. Eventually, if temperatures rise high enough, pikas will have nowhere to go.

Ironically, the changing weather patterns

mean that not only do pikas run a higher risk of overheating in the summer but also of freezing in the winter. Pikas depend upon an adequate snow layer to protect them from frigid temperatures; without the relative warmth of the subnivean layer, they may die from overexposure. More intense freezing and thawing patterns can also be detrimental to pikas’ tunnels beneath the snow, causing them to collapse and making it difficult for pikas to access their winter food stores.

The goal of the Craighead Institute’s pika survey is to provide accurate locations for pika populations throughout the state. Craighead informed us that, though pikas are widespread across Montana, we have very little information on where they actually live. As more and more citizen scientists share in the effort to record pika locations, the increased amount of data will help wildlife professionals and agency personnel to identify populations threatened by climate change as well as areas that may provide refuge

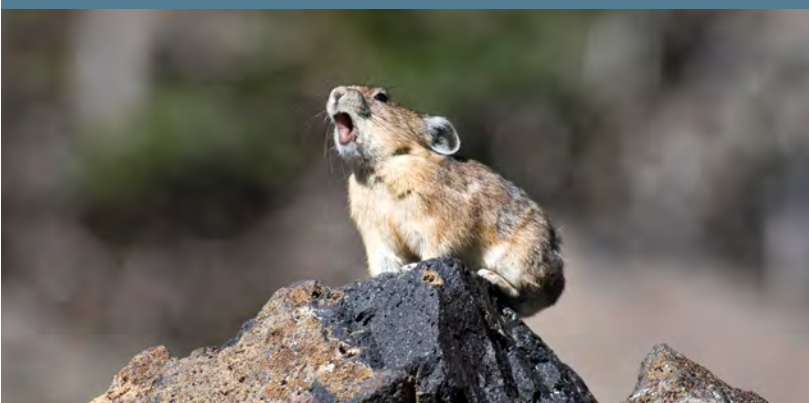
## CITIZEN SCIENCE VOLUNTEERS NEEDED!

The Craighead Institute needs citizen science volunteers from western Montana to assist with their Montana Pika Survey.

Last year 20 citizen scientists

provided 70 new pika observations in eight counties in Montana and Wyoming. Interested in helping increase those numbers in 2012? Read up on

pikas this winter and attend a training next spring or summer to learn how to identify pika sign and collect and report data. Most trainings are in Bozeman, but we’ll have one in late spring in Missoula, too. Check out [www.craigheadresearch.org/pika-research.html](http://www.craigheadresearch.org/pika-research.html) for more information or contact April Craighead at [april@craigheadinstitute.org](mailto:april@craigheadinstitute.org). If interested in the Missoula training, contact Allison De Jong at [adejong@montananaturalist.org](mailto:adejong@montananaturalist.org) or 406.327.0405.



in the future.

Little did I know, when we saw that pika scampering on a rocky slope in the Bitterroot Mountains, that this little species faces such significant challenges to its survival. There doesn't seem to be an easy answer for the genus *Ochotona*. These hardy (and undeniably cute) "little chief hares" have thrived for millennia in what we would consider to be less-than-hospitable environments. Will they be able to survive the additional hardships of rising temperatures, unpredictable weather patterns, and the ever-diminishing range of their habitat? Only time will tell.

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*Allison De Jong enjoys honing her writing and naturalist skills as Volunteer Coordinator and soon-to-be Montana Naturalist editor at the Montana Natural History Center. She has an M.S. in Environmental Studies from the University of Montana. The editors want to thank the MNHC for granting us permission to reprint this article from the Montana Naturalist.*

## FOR MORE INFORMATION ABOUT PIKAS:

- Surveys & publications by USGS ecologist Dr. Erik Beever: [www.nrmssc.usgs.gov/staff/beever/pubs](http://www.nrmssc.usgs.gov/staff/beever/pubs)
- Pikas in Peril Project: [http://science.nature.nps.gov/im/units/ucbn/monitor/pika/pika\\_peril/index.cfm](http://science.nature.nps.gov/im/units/ucbn/monitor/pika/pika_peril/index.cfm)
- Nature Mapping Pika Project in the Greater Yellowstone Ecosystem:  
<http://www.naturemappingjh.org/Pika-Project.aspx>



## GLACIER'S SIX 10,000-FOOT SUMMITS – THE FIRST SKI DESCENT



Jay Shaver below the summit of Kintla peak, climbing the north face - Andrew Zimet

By TRISTAN SCOTT of *The Missoulian*

For 20 years, Andy Zimet of Whitefish kept mum about his quest to become the first person to ski from the summits of Glacier National Park's "Big Six" – those snow-marbled, pyramidal peaks that rise over 10,000 feet in the sky. To be fair, Zimet didn't exactly strike out to set any records. A fit and enterprising ski mountaineer, the Whitefish anesthesiologist merely wanted to explore the outer limits of his sport and push his abilities, skiing summit lines that were both exhilarating and challenging.

As it happens, Glacier Park's sextuplet of 10,000-footers handily fit the bill.

But a silence spanning two decades betrays deeper ambitions, and the likelihood that no one else had skied all six peaks made the pursuit all the more alluring. In 1991, Zimet embarked on his "unofficial" project to ski Mount Jackson, Mount Merritt, Mount Siyeh, Mount Cleveland, Mount Stimson and Kintla Peak, and to register them as "first descents" whenever possible – that is, descending routes that had not been skied

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Editor's Note: This article like several others in our series of Crown E publications, is reprinted with the permission of *The Missoulian*, Missoula, Montana's newspaper.



Jay Shaver climbing northwest gully of Kintla peak  
- Andrew Zimet

previously. In that first season, he ticked off three peaks from his list, climbing and descending them in quick succession between April and July.

Last July, with not one but two hard-earned first descents off the summit of Kintla Peak – the centerpiece of his project – the 57-year-old Zimet’s tenacity paid off, and he likely became the first person on record to accomplish the feat.

So he finally opened his mouth. “I tend to be a little bit paranoid, but this was such a beautiful line that I wanted to keep very quiet about it,” Zimet said of Kintla. “I was nervous about someone getting to it before me.”

His crown jewel did not come easy. Zimet is modest about his accomplishment and admits that he wasn’t always charging forth with the aim of setting a record.

After quickly skiing the first three peaks – Jackson, Merritt and Siyeh – in 1991, he

waited until March 1997 before completing another, a solo ski of Mount Cleveland. Two months later, he and local skier Pete Costain descended the southwest face of Mount Stimson, which they claimed as a first descent (and for which the 2011 book, “50 Classic Ski Descents of North America,” gives them credit).

What followed after Stimson was a 12-year hiatus that saw Zimet devoting much of his time to whitewater kayaking, with prime whitewater conditions coinciding with the finest high-mountain skiing conditions, in spring and early summer when the snow is most stable.

A neck injury eventually forced him to back off of kayaking, and in 2009 he attempted and completed a solo line down Mount Jackson’s northwest face, bringing to five the number of 10,000-foot peaks he had descended in Glacier National Park. But at 10,101 feet, Kintla Peak continued to

elude him.

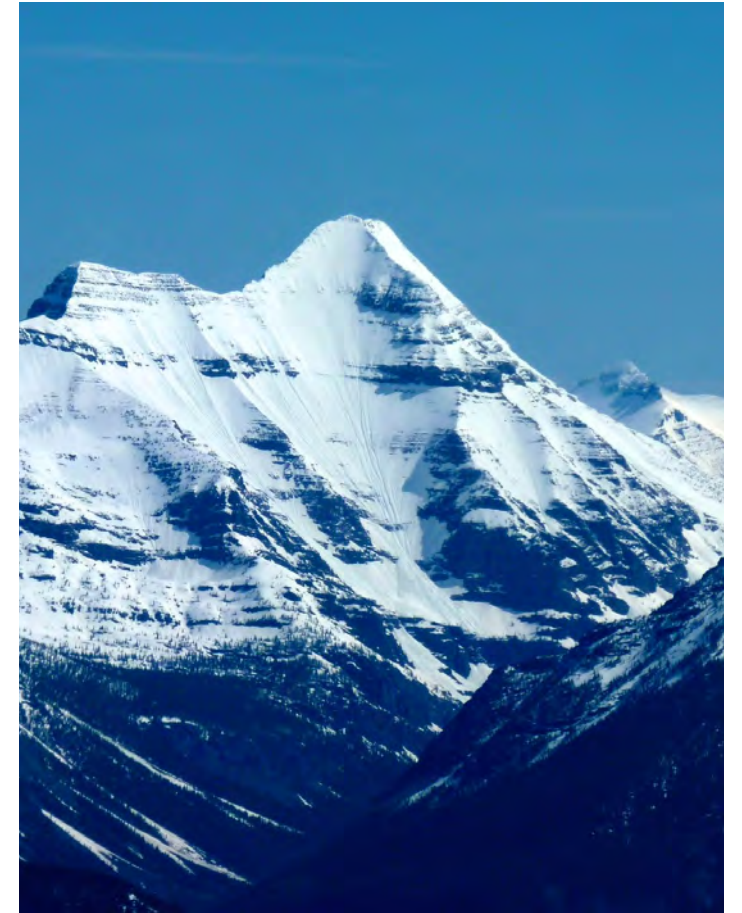
Although Zimet attempted Kintla twice during those years, the approach to the mountain’s north and west faces is extremely difficult, requiring a full day of slow, plodding bushwhacking through a nearly impenetrable thicket of alders and across a lattice of deadfall. The task is made all the more difficult by a loaded pack and protruding skis. “The bushwhacking is just horrendous,” he said. “With skis on your back it can drive you to psychosis. So, for a while, that put the kibosh on my plans.”

And then Zimet heard whispers that the wildfires that tore through Glacier Park in 2003 may have burned through the un-navigable route up Red Medicine Bow Creek and the crux of the approach, making the route passable. He returned in 2009, when the spring conditions would be perfect, but when he reached the outlet of Upper Kintla Lake the runoff was chest deep and he couldn’t cross. “What I hadn’t counted on is that it would be the height of runoff,” he said. “I just turned around. I knew I would need a small inflatable raft to cross.”

He returned again the following July with a friend, Jay Shaver, and they paddled across Lower Kintla Lake in a canoe and hiked to the upper lake, then used pack rafts to cross the outlet.

From his five previous trips scouting and reconnoitering the peak, Zimet knew there was a near-perfect line that follows Kintla’s west face before dipping into a steep, narrow couloir along the northwest buttress. “That was the prize,” he said. “It just has an absolutely beautiful face on it, and then there is a spectacular, steep, narrow couloir.”

The route is also ideal in that it begins



Southwest face Mt Stimson - Andrew Zimet

on a west-facing aspect and finishes on a north-facing aspect, which receives less sun – “the perfect combination,” Zimet said.

It was not to be. To ski the route, Zimet and Shaver would have to ascend the same path they intended descend, lest they encounter unforeseen obstacles, and on that Saturday poor visibility and weather conspired to derail their plans. Instead, they skied down Kintla’s impressive north face and northwest gully, which is also likely a first descent.

“It should have been satisfying, but I just felt unfulfilled,” Zimet said. “So I had to go back. I had spent too much time on that peak to let it go.”

The following weekend, Zimet returned, this time alone, and again endured a maddening day of bushwhacking before making



Ski route Kintla peak west face/north buttress - Andrew Zimet



Northwest face Mt. Jackson  
- Andrew zimet

camp at the snow line. He bivouacked under cold, clear skies and awoke to a bluebird day – the perfect conditions for skiing high peaks, because the snow freezes overnight.

Using ice axes and crampons, Zimet made his way up the route, carefully assessing the conditions along the couloir, which is as narrow as 5 feet in places and as steep as 50 degrees, and involves a hidden passage through a cliff band. “It was a great ski, easily my favorite ski that I’ve had in the park,” he said. “It was a great way to finish my quest to ski Kintla.”

In mountaineering, professing first descents and pioneering new routes can be fickle claims to make, but so far no one has disputed Zimet’s title, which he dutifully reported to the Glacier Mountaineering Center

in Kalispell and to the Polebridge Ranger Station. Local mountaineering experts are fairly certain that Zimet can rightly lay claim to the record; while others have climbed all six peaks, to be sure, and one mountaineer has climbed them all in winter, no one has reported skiing off the top of all six summits.

“He was steadfast and he skied some big lines,” said Don Scharfe, owner of Rocky Mountain Outfitters in downtown Kalispell, a nerve center for mountaineering lore and gossip. “Based on what I know from owning the store for the last 36 years, I have a feeling that Andy got this one.”

Asked whether he has any other mountaineering goals on the horizon, Zimet replies confidently. “I absolutely do, but I can’t tell you about them,” he said. “Not yet.”



Jay Shaver climbing lower section of Kintla pk northwest gully  
- Andrew zimet