Crown of the Continent

THE UNIVERSITY OF MONTANA

MAGAZINE

fall 2011 issue 6

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FOREWORD

with Vice President for Research and Development *Dan Dwyer*

It is my pleasure to welcome readers to this sixth issue of the *University of Montana's Crown of the Continent E-Magazine*. As Vice-President for Research and Development at UM for the past decade, it has been exciting to watch this Crown Initiative and its Electronic Magazine grow and mature over the past several years. Since the main campuses of the University of Montana are located in Missoula, just at the southern edge of the Crown ecosystem, it seemed very appropriate to me from the beginning that the University focus some of its efforts –in research, but also in education and outreach—on this unique and diverse part of the Rocky Mountains. Additionally, the University has two very important research centers and facilities situated in the Crown itself—the Flathead Lake Biological Station and the Lubrecht Forest Experiment Station. Both of these research and education centers, of course, have provided students marvelous educational opportunities and researchers and scholars very important field opportunities for decades. And their work has resulted in many research findings that have yielded significant insights into how parts of this and other ecosystems function and how to better manage them in order to preserve them.

What this relatively new UM Crown Initiative has offered, among other things, is the opportunity to foster greater collaboration among the programs and researchers on our campuses and far beyond them, as well as a means, through the E-Magazine, to make all of these Crown-based educational opportunities and research activities and findings much better known both to members of the greater UM community and to the general public beyond Missoula and even Montana. Many of the comments received from readers of earlier issues include such words as: "I didn't know that…" or "I was surprised and happy to learn that…" These have been followed by references to articles on scientific research, such as some about climate change; to pieces about the history of Glacier National Park; to reviews of recent and important books about some aspect of the Crown, its natural history or its challenges from fire, floods, or political changes; or important pieces about work being carried out by some of the Initiative's and the University's many collaborating partners throughout the region. In this way, the *UM Crown E-Magazine* has attempted, and, in my mind, succeeded remarkably, in making a wide range of important information about the Crown accessible and available to anyone who has a computer and internet access. And it now has readers from around the world.

As this particular issue (#6) illustrates, the UM Crown Initiative and its E-Magazine are, as so many important things that involve the University, its students, faculty, and staff, collaborative efforts that involve people, institutions, and organizations far beyond the main campus. As with all such efforts, the University is very grateful for what those partners and collaborators bring to us as we work to fulfill our mission as a public university. Without the collaboration of individual photographers, scientists both on and off campus, of partners like The *Missoulian* newspaper or the Miistakis Institute in Calgary, the magazine would be much less exciting, much less informative, much less inspiring.

As an avid fisherman, I spend as much time as I can outdoors in Montana and the region, much of it in rivers and streams near or in the Crown. I get to know those places in intimate ways, to be sure, but they also have made me want to know more about how those places link to the rest, what their history is all about, how they have been preserved despite all the threats they have faced, what kinds of research are being carried out in the region, and the ways in which we continue to face wisely the challenges and changes they face. The *UM Crown of the Continent E-Magazine* is a great place to learn about all of that. I hope that you will enjoy this issue and the previous issues as much as I have and that you continue to find inspiration and important information in these pages.

why THE CROWN OF THE CONTINENT *is taught*

THE CROWN OFFERS US AN **OPPORTUNITY TO RESEARCH, EXPLORE AND LEARN** ABOUT VIRTUALLY ALL ASPECTS OF A **DYNAMIC MOUNTAIN ECOSYSTEM**. LESSONS REALIZED HERE CAN BE EXPORTED TO OTHER PARTS OF **THE NATION AND THE WORLD**.

COLLABORATION FOR CONSERVATION

No place in America has experienced as much cooperation and grass roots work for conservation as the Crown. We document the work being done in various landscapes from the beginning and describe how so much accomplishment is possible when all participants are heard.

SUSTAINABLE DEVELOPMENT

Creating conservation projects that preserve traditional uses of Crown landscapes has shown we can devise economic activities that are in harmony with the ecosystem. We study the results of current successes and initiate discussions on new possibilities.

CLIMATE CHANGE

The Crown, especially in Glacier National Park, is perhaps the most expansive outdoor laboratory in the nation to study the many facets of an alteration in our long-term climate. Through the knowledge of what is occurring, we can determine ways in which to live with it, adapt to it, benefit from it, and pass on the results and ideas to folks working in other landscapes.

URBAN WILDLAND INTERFACE CONFLICTS

Several areas of the Crown exhibit examples of this issue and present opportunities to create workable solutions.

INDIGENOUS CULTURES

No place in North America experienced so much interaction among the Indian nations. The Crown allows us a chance to understand the history behind the culture of the many native peoples who populate several areas of this ecosystem.

RESEARCH

Studies that are at once interesting and of value to academia as well as the public are made known through the publishing efforts of the UM Crown Initiative.

Views of the CROWN

Lightening storm, Glacier-Waterton International Peace Park.

ABOVE: Northern Pygmy Owl near the Flathead River.

LEFT: Crescent moon among dead Whitebark Pine.

FAR LEFT: Photographer Steven Gnam said of his own photo, “One of my favorite grizzly shots. Although grizzlies occupy so many kinds of habitat, I like to think of them as being in the rugged mountains, like this.”

TOP LEFT: “the dancer”

TOP RIGHT: View of approaching storm from a high peak in the Crown.

BOTTOM LEFT: Muley joy.

BOTTOM RIGHT: Mountain goat kid scratching its ear on mom.

TOP: Double rainbow and summer storm.

BOTTOM LEFT: First snow of the autumn, almost time to den for this griz.

BOTTOM CENTER: Bald eagle along the North Fork of the Flathead.

BOTTOM RIGHT: Mountain Goat navigating steep terrain.

Meet the

Steven Gabriel Gnam has been photographing wildlife, landscapes, and people in adventure across the western United States and Canada for the past 12 years. Most of his work focuses on the wildlands of the Rocky Mountains and the Pacific Northwest. Steven lives with his wife Alyson in the Pacific Northwest. He is currently working in the Crown of the Continent to ensure it remains wild and beautiful for generations to come. To see more of his work visit: StevenGnamPhotography.com

TOP LEFT: A Yellowheaded Blackbird in a Swan Valley wetland.

TOP RIGHT: Steven Gnam photographing in British Columbia.

BOTTOM RIGHT: Wildflowers along the Rocky Mountain Front.

BOTTOM LEFT: Arrowleaf Balsamroot on the Flathead Indian Reservation.

AKAMINA-KISHINENA

Advocates push for Glacier's neighbor to be added to

international peace park

story and photos by ROB CHANEY

A single mud puddle sums up the wonder and weirdness of this place. Barely two miles over the hump from Waterton National Park's busy Cameron Lake Road, a soggy spot in the trail bore the prints of a grizzly bear, an all-terrain vehicle, a wolf, hiking boots and a bicycle wheel. Elk scat lay nearby in the grass. So did a horseshoe.

British Columbia's bit of the border above Glacier National Park defies easy understanding. While it shares the same chain of spectacular mountains as the International Peace Park, it has been a Canadian provincial park just 16 years. While Glacier and Waterton have extensive staffs of rangers and concessionaires, the Akamina-Kishinena park headquarters is an unoccupied 12-by-20-foot cabin.

"We haven't had staff permanently on site for about four years," said Alex Green of the British Columbia Parks Department. "The area receives quite a bit of use, but it disappears in the background of Waterton."

That background vibrates with change. U.S. and Canadian leaders announced plans to protect the Flathead River Basin from mining and energy development last year, but the details remain unfinished. Waterton and Glacier just celebrated their centennial birthdays, but calls to boost Akamina-

RIGHT: A 700-foot-tall nunatuk remains where an ice-age glacier split as it carved a major valley in British Columbia's Akamina-Kishinena Provincial Park.

Rob Chaney has reported news in Montana for 23 years, serving at the Hungry Horse News, Bozeman Daily Chronicle, Montana Magazine and currently the Missoulian. Chaney earned a bachelor's degree in political science from Macalester College in St. Paul, Minn. He was a fellow at Columbia University Teacher's College for work on Montana's Tribal History Project, and last year received a University of Montana Matthew Hansen Endowment fellowship for coverage of Superfund restoration of the upper Clark Fork River drainage. He currently covers outdoors, environment and science issues for the Missoulian in Missoula, Montana.

> "The British Columbia Flathead is one of the most extraordinary places on Earth for biodiversity. It's a dream worth pursuing."
>
> **Harvey Locke, senior adviser to the Canadian Parks and Wilderness Society**

BELOW: Stalks of Devonian coral roughly 400 million years old snake through a chunk of rock found in the North Kintla Creek Valley in Akamina-Kishenina Provincal Park. The same basin also contains billion-year-old stromatolite fossils, among the oldest life forms on the planet.

Kishinena to federal status went unfulfilled. "We continue to pursue the dream of Kootenay Brown (Waterton's first superintendent) 100 years ago to put the missing piece of the Peace Park in place," said Harvey Locke, former president and now senior adviser to the Canadian Parks and Wilderness Society. "The British Columbia Flathead is one of the most extraordinary places on Earth for biodiversity. It's an essential part of the long-term future of Glacier and Waterton parks. It's a dream worth pursuing."

This 27,000-acre park runs from the Alberta border west above Glacier Park's Upper and Lower Kintla Lakes, with a big cherry-stem of provincial national forest poking into its middle. The corridor includes old logging roads where some motorized travel is allowed, although it's prohibited in the provincial park. Big-game hunters regularly use the area, and do much of the trail maintenance into remote camps. "There's not much of a question if that should be a part of the Peace Park and World Heritage site," said Casey Brennan of the Canadian conservation group Wildsight. "Making it a national park would get at least a half-dozen park rangers in there, plus education and interpretation for the schools. And there'd be science, more than the once-a-year fly-over that provincial ministry officials make to be sure there's still goats in there."

It's not because of a combination of Canadian historical development and contemporary land management issues. Both those things could be changing. First the Canadian history. In the 19th century, what's now Alberta was part of the Northwest Territories, owned by the federal government. British Columbia was a separate province that joined the Canadian federation in 1870. So while the Canadian central government could designate Waterton as a national park after creating Alberta in 1905, British Columbia retained provincial control over virtually all its public land. And British Columbia's southeastern corner has rich underground wealth. The Elk River drainage north of Eureka supports major coal mines. The Flathead River drainage just to the east (which forms Akamina-Kishinena's western border) has shown equal promise.

Locke recalled major efforts to expand Waterton when American and Canadian

ABOVE: Michael Jamison of National Parks Conservation Association looks through Grizzly Wide Pass into the North Kintla Creek Valley of Akamina-Kishenina Provincial Park in British Columbia.

Rotary Clubs pushed for the International Peace Park designation in 1934, in the 1970s when nature writer Andy Russell led a campaign, and again in the 1990s when former Canadian Prime Minister Jean Chrétien proposed expanding the country's national park system.

It was only in that last push that British Columbia decided to make Akamina-Kishinena a provincial park in 1995, Locke said. And in doing so, it created a boomerang-shaped space with all its low-elevation timberland excluded from protection.

Much of the Elk River area was a British Columbia wildlife refuge until 10 years ago, when British Columbia Premier Gordon Campbell ordered it changed to a mining zone. The Akamina-Kishinena was simply provincial forest. In 2010, Campbell reversed course and signed a similar order making the Flathead off limits to mining and energy exploration. The deal was part of a memorandum of understanding with Montana Gov. Brian Schweitzer, backed by the state's senators, Max Baucus and Jon Tester.

That's put new wind in the sails of park supporters. But the memorandum of understanding remains unfunded on the American side and unlegislated on the Canadian side. Baucus has a bill moving through the Senate to buy out the mining interests, but the British Columbia Parliament hasn't yet produced a measure to make Campbell's order permanent."It's written in pencil," said National Parks Conservation Association Crown of the Continent program manager Michael Jamison. "We'd like to see it written in pen."

Two of Akamina-Kishinena's features do draw regular attention. Forum and Wall lakes lie just across the British Columbia border of Akamina Pass. They rival Glacier Park's Avalanche Lake for accessibility and beauty.

Beyond there, park visitors are on their own. The park's webpage warns it is a "wilderness area, without supplies or equipment of any kind. All arrangements for supplies and transportation must be made beforehand."

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"I don't think four Americans have ever done this," said Will Hammerquist as he led the way through a cliff notch between the Starvation Creek and North Kintla Creek drainages. "Hardly any Canadians ever get here."

Below was a U-shaped valley punctuated by a 700-foot-tall nunatuk - a Devil's Tower-like pillar that defied the glacier that carved the rest of the drainage. Fossil algae swirls called stromatolites, 1.5 billion years old, littered the basin. The trunk of a dead whitebark pine tree 36 feet around had a chunk of stromatolite tangled in its roots. Hammerquist peeked over the valley's southern lip, searching for the concrete obelisk signifying the U.S.-Canadian border. While he could see Glacier's Upper Kintla Lake 3,000 feet below, the four-foot-high marker was buried in snow.

For Hammerquist, Akamina-Kishinena's provincial status causes both social and environmental problems. Compared to Waterton, it has virtually no personnel to explain its wonders, enforce its rules or explore its scientific treasures.

That results in little control of the noxious weeds visitors track in, a hunting zone shoehorned between two high-protection wildlife parks, and a stalled effort to unify the whole area as a world heritage site.

"The whole notion of combining Waterton and Akamina has the weight of history behind it," Hammerquist said. "It's been there for 100 years. It's not some idea we just came up with."

In 2009, a Canadian opinion poll found 77 percent of the East Kootenay (including Cranbrook, Fernie and Sparwood) residents supported creating wildlife sanctuaries in southeastern B.C., where hunting and mining would be prohibited. But the 2010 international agreement on the Flathead specifically included hunting and trapping as permitted uses.

"It has global significance," said Sarah Cox, spokeswoman for Sierra Club B.C., which advocates protecting a 100,000-acre swath of southeast British Columbia, including the Akamina-Kishinena. "It's the largest, longest wildlife corridor left in North America.

"The Akamina is only a few hundred meters wide in some places," Cox said. "You can hunt a grizzly there. A bear that's fully protected in Waterton and Glacier can step across the border and be shot in B.C."

Published by permission from the Missoulian

An unnamed massif on the border of Montana's Glacier National Park and British Columbia's Akamina-Kishenina Provincial Park dominates the North Kintla Creek Valley. The provincial park has no permanent staff and few developed visitor facilities.

Jack Potter retires

photo courtesy Dave Hadden
Members of the Flathead Wild team on Mt. Hefty in the Whitefish Range.

By DAVE HADDEN

The following piece, reprinted in a slightly edited form, was recently written by Dave Hadden, Director of Headwaters Montana upon the retirement of Jack Potter from Glacier National Park. Everyone who has worked with Jack over the past four decades, including those of us involved with the UM Crown of the Continent Initiative, have found a great friend and collaborator in him, and have relied heavily on his experience, insights, vast knowledge, and wisdom about all things related to GNP and beyond in the Crown. And even though he is now officially retired, and will have more personal time to pursue some additional interests, we continue to rely on him and look forward to continuing to work with him for many years to come. And thanks to Dave Hadden for allowing us to reprint his reflections on Jack below. For readers interested in learning more about the Headwaters Montana organization, its website is info@headwatersmontana.org

On May 2 of this year, Jack Potter retired after 41 years with Glacier National Park, one of the few National Park Service employees to spend his entire professional career in one place. To many of us on the 'outside' of Glacier's internal operations, Jack has been the conscience of the bureaucracy for Glacier's safekeeping. The future challenges and threats facing Glacier are many and Jack's vigilance and integrity will be hard to replace. It is fair to ask, "Who will be the next Jack Potter for Glacier?"

Jack ended his career as chief of Science and Resource Management. He started as a seasonal trail crew worker and worked his way up, learning the park from the inside out.

As he said in an interview with the *NPS Park Science Magazine*, "I have been very fortunate to be able to broaden my working experience and move upward in the ranks, especially in Glacier."

This exceptional GNP employee has received several honors for his outstanding work at Glacier. Jack was winner of the 2003 Intermountain "Regional Director's Award for Resource Management", as well as the 2007 Department of the Interior "Superior Service Award." Among other accomplishments, he is credited with strengthening the park's management team with his "in-depth knowledge" of Glacier and the National Park Service mission and objectives, and is recognized as being committed to the "highest principles of leadership and integrity."

Jack can't place his fondest memory of his time in Glacier. "There are so many days and nights in Glacier's backcountry, and every one was memorable."

He recently recounted one funny incident when he was packing a trail crew out of No Name Lake. Jack was having a problem with his pack string, and instead of tying his horse up after dismounting, he let the reins drop. When he approached the problem mule, the mule stepped on his foot. He let out a pained yell, and half the pack string took off down the trail without him. Later, walking out and leading the remainder of the string, he encountered a woman who slyly asked, "Are you the one missing a horse and three mules? They seemed to be in an awfully big hurry."

Jack Potter was part of many important Park decisions and decision-making processes. He said the drafting and finishing of the Glacier General Management Plan was one of the more challenging and rewarding efforts for him. The 1999 Plan basically "told the story of where the Park was headed for the next twenty years".

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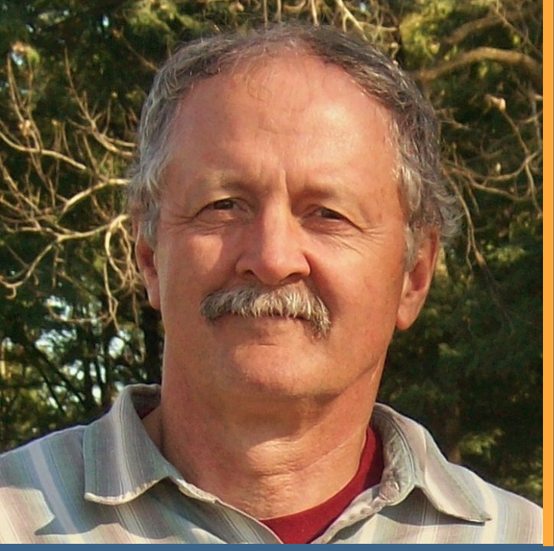

photo courtesy Dave Hadden
ABOVE: Jack Potter

To honor Jack Potter's legacy of stewardship at Glacier National Park, Headwaters Montana established in 2011 an annual award in his name. "The Jack Potter Glacier National Park Stewardship Award" recognizes an individual who demonstrates courageous and above average commitment to the stewardship and protection of the natural resources of Glacier National Park. Nominations for the award may be made by contacting HeadwatersMontana at info@headwatersmontana.org

But perhaps just as important as the guiding documents he helped author, Jack was vital to keeping everyday decisions from damaging Glacier's amazing wildlife, fisheries and water. He helped reduce the impact of chalet reconstruction and ongoing management on Glacier's fragile subalpine ecosystem. He also made hundreds of daily management decisions to keep bulldozers out of creeks, pavement areas smaller, and Park, contractor or concessionaire activities quieter or more in keeping with the Park's preservation mandate.

More recently, Jack used his position to help prevent mountaintop removal coal mining in the British Columbia headwaters of the North Fork Flathead River. By helping guide the 2009 IUCN/World Heritage site "in danger" review, initiated because of BC mining and other threats, Jack contributed significantly to the progress of these efforts. Headwaters Montana was one of the petitioners of that issue. Jack said of that overall effort, "We were able to demonstrate the incompatibility of mining in this area with the world heritage site."

Underscoring the importance of these complex and multi-faceted efforts, Jack also called the recent agreement between BC and Montana to ban mining and energy development in the North Fork Flathead "the biggest thing in my career," some 36-years in the making.

Yet, mining development in BC is just one of many threats to Glacier, but Jack lists development pressure on Glacier's perimeter and climate change as the two biggest.

He includes among those threats the perennial issue of paving the North Fork Road, oil and gas development on the Blackfeet Reservation, as well as the pressures that the sheer volume of human visitors puts on wildlife and park resources that the public generally remains unaware of. The primary challenge, Jack asserts, will be keeping the Park from becoming an island surrounded by incompatible land uses. That challenge will be keeping Glacier "intact and connected to adjoining wildlife habitat, particularly as the threat of climate change looms in the future."

What does Jack see as his legacy to Glacier National Park? *Park Science Magazine* asked him that question. He responded as follows: "Resource protection has been a constant effort, with some problems that came and went and others that persist. I would say at least for the relatively short term, the General Management Plan, the Commercial Services Plan, and the Backcountry and Wilderness Plan and wilderness proposal have put some ideas into policy. There are many other efforts relating to fire and other issues that may also add up. Our Resource Management Plan was good for the time [i.e., 1994, updated in 1998], but it needs to be updated into a Resource Stewardship Plan."

Stewardship. That word seems to sum up Jack's time and commitment to Glacier National Park. Jack's shoes will be very hard to fill, but surely his successors can strive for and build on his exceptional record. Glacier deserves no less.

To read the Park Science Magazine article referenced in this article, go to: www.nature.nps.gov/ParkScience/index.cfm?ArticleID=326&page=1

MONTANA HEADWATERS

by Director *Dave Hadden*

Headwaters Montana works to conserve the water, wildlife and traditional outdoor heritage in the Crown of the Continent.

We focus on the west side of the Continental Divide and, more specifically, the Flathead Valley, with a pin-point focus on beating back the threat of mountaintop removal coal mining in the Canadian reach of the North Fork Flathead River. In 2010 we registered a historic breakthrough that ended 35 years of disagreement between Montana and British Columbia.

In February 2010, Montana and B.C. signed a memorandum of understanding (MOU) that committed both governments to not develop energy or mining resources in that transnational watershed. As with most agreements, the devil is in the details.

Headwaters Montana and its "Flathead Wild" (www.flatheadwild.ca) team members have a nine-point conservation plan for the North Fork, including:

Banning mining and energy development in the entire watershed;

Doubling the size of Waterton Lakes National Park in Canada;

Establishing a Wildlife Management Area between the border and Banff National Park; and

Legislating a high quality conservation plan for national forest lands south of the border.

Agreements like the MOU came into being only because the governments of Montana and B.C. got the message from citizens like you who expressed their concern. The North Fork Flathead issue still needs your voice.

Please sign up with Headwaters Montana and lend your support for one of the most biologically important places in the Crown of the Continent. Visit us at www.headwatersmontana.org.

Thank You!

Headwaters Montana
PO Box 3410
Whitefish, MT 59937
406-837-0783

THE LONESOME LIFE

Kishenehn Ranger Station 1910–1940

by MARK HUFSTETLER

George Grant, photographer, Glacier National Park Archives, West Glacier, HPF 4148

LEFT: Nearly forty miles from park headquarters at West Glacier as the crow flies, Kishenehn Ranger Station's territory included some of Glacier's most remote and little-visited country. Across the foothills to the east, Kintla Lake (above, August 6, 1932) was the only attraction frequented by travelers.

Even by Montana standards, the North Fork of the Flathead River traverses a remote landscape, one that still evokes a sense of the frontier. Today, the long, forested valley remains inaccessible by paved road, lacks commercial electric service, and is home to only a handful of year-round residents. Although the North Fork marks the northwestern boundary of Glacier National Park, only a tiny fraction of the park's visitors venture into the area.

The sense of "frontier" that characterizes the North Fork country is an enduring legacy of the early years of Euro-American settlement in the area and a reminder of the isolation and need for self-sufficiency that has always been inherent to life on the fringe of wilderness. Along the North Fork, those challenges were faced by homesteaders, loggers, and prospectors who entered the region beginning in the 1890s as well as a handful of forest and park rangers charged with managing the land and its resources in a valley that was (and is) largely federal property, protected as part of the Flathead National Forest or Glacier Park. With duty stations that were very remote, even by North Fork standards, the area's early rangers existed in an often-solitary world, their daily lives characterized by a unique combination of wilderness self-reliance and bureaucratic responsibility.[1]

The North Fork country first received designated federal protection in 1897 with the establishment of the Flathead Forest Reserve. While the Department of Agriculture exerted a thin administrative control over the reserve in the years that followed, it was not until the 1910 creation of Glacier Park that the valley saw a significant federal presence. Glacier's establishment effectively split the valley between two federal agencies—and more importantly, between two contrasting land management philosophies. West of the North Fork, the national forest land continued to sustain multiple uses, with homesteading, logging, and hunting all taking place. The land east of the river, though, was now part of a national park with land and wildlife protection as a primary goal. In the eyes of Glacier's early managers, this dichotomy was a potential threat to the park's management goals. To prevent hunting, timber-cutting, and other potentially damaging activities from filtering into Glacier, an active official presence along the park boundary seemed essential.[2]

Throughout the 1910s and 1920s, enforcement of the park boundary was a major focus of Glacier's administrative efforts and a major duty of the park's small ranger force. It was accomplished primarily by the establishment of a string of log-cabin ranger stations along most of the park's borders and a newly built boundary trail intended primarily for administrative patrol. Most of Glacier's rangers were based at these remote outposts, one man per station year-round, each a human presence to help distinguish the line between protected and open land. Three of these stations were in the North Fork country: Logging Creek, a former Forest Service facility; Polebridge, near the center of North Fork homestead activity; and Kishenehn, an isolated spot just south of

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Canadian border.

The Kishenehn facility was fairly typical of Glacier's early ranger outposts. Constructed near the spot where Kishenehn Creek entered the North Fork, Kishenehn served as the park's most northwesterly administrative site. From there, rangers could theoretically monitor the Canadian border just to the north as well as the park's western boundary along the river. Though the area's isolation meant that it was removed from most North Fork activity and settlement, a small number of homesteads lay across the river a few miles to the west, forming a rural community known as Trail Creek; these were Kishenehn's nearest neighbors, and perhaps a source of enough concern to park administrators to warrant a ranger's presence.[4]

The Kishenehn district ranger oversaw a small, roughly triangular domain that included some of Glacier's most remote and little-visited country. The southern end of the Kishenehn district included patented homestead entries that predated the park, but otherwise the land was virtually undisturbed. Kintla Lake, across the foothills to the east, was the only location even occasionally frequented by tourists; a small camping area existed there, reached by a rough automobile road that predated the park.

For most of the ranger station's history, road access to Kishenehn itself was problematic at best. Early maps show an unimproved fork of the Kintla road following the east bank of the North Fork past Kishenehn all the way to the Canadian border, but early park documents mention travel to Kishenehn only on foot and horseback, suggesting that this pioneer route may have been impassible to wheeled vehicles. A rough truck road to Kishenehn was finally punched through from the Kintla road by the late 1920s, but its use was limited to the summer months. Dave Cannavina, an early Kishenehn ranger, recalled once attempting to make the drive in April; his truck became hopelessly stuck north of Polebridge, and a North Fork rancher used a team of horses to pull the vehicle the remaining fifteen-odd miles to Kishenehn. The vagaries of the park road meant that the most reliable access to Kishenehn was usually the hike in from Trail Creek, crossing the North Fork either in a boat or a primitive cable "bucket crossing" installed by the park.

This remote geography and limited infrastructure meant that, administratively, the Kishenehn ranger was largely on his own. Except under the best of conditions, the next-nearest ranger station (at Polebridge) was a full day's ride away. Despite this isolation, though, Kishenehn was the hub of a substantial network of trails, including the boundary route along the river; a route up Kishenehn Creek to British Columbia; and another heading over the ridge to Kintla Lake. Small "patrol cabins" existed at both ends of Kintla Lake and at Ford Creek, providing overnight shelter for extended ranger patrols. Single-strand telephone lines, strung through the trees, connected Kishenehn with Polebridge and ultimately with park headquarters in far-away West Glacier. The phone lines were notoriously unreliable, frequently broken by deadfall and largely unusable during the winter months.

The Kishenehn station itself began with the construction of a small log cabin in 1913, a building that was destroyed by fire six years later. The replacement structure, completed in 1921, provided two small rooms and a covered front porch and served both as office and living quarters for the Kishenehn ranger. A small, rustic horse barn stood nearby, and in later years the park added a "fire cache" building, where equipment for fighting forest fires was stored. A woodshed and an outhouse completed the outpost. This collection of buildings was characteristic of nearly all of Glacier's early-twentieth-century ranger stations.

For the first quarter-century of Glacier's existence, the little cluster of buildings at Kishenehn was deemed a sufficiently strategic location that a member of Glacier's small ranger force was stationed there year-round. In the North Fork and elsewhere, most of Glacier's early rangers were local residents and area homesteaders, who already knew the

See next page

George Grant, photographer, Glacier National Park Archives, West Glacier, Grant185x
This August 7, 1932, photograph shows ranger Andy Fleutsch in front of the Kishenehn station. The two-room cabin in the foreground served as both the station office and Fleutsch's living quarters. Built in 1921, it replaced an earlier building destroyed by fire two years earler. The smaller building in the background was a fire cache, storing equipment used in fighting forest fires. A barn, a woodshed, and an outhouse completed the Kishenehn building ensemble.

outdoor skills that were mandatory for a wilderness life. All were male, and most were single, often drawn to park service work for the promise of steady wages as much as the lure of the outdoors. A Glacier ranger in the early 1920s might earn one hundred dollars per month, housing included—a respectable sum in an area where much blue-collar work was seasonal and homesteads often could generate only a subsistence lifestyle. During those years, the total Glacier ranger force typically consisted of fifteen to twenty men, most stationed alone at places such as Kishenehn. In the summer of 1921, a typical year, Glacier's ranger staff consisted of a chief park ranger, three assistant chief park rangers, a "Carpenter and Park Ranger," and twelve park rangers, four of whom held temporary positions.[8] Some served for only a season or two, while a few made careers of the ranger life. Though park records are incomplete, most Kishenehn rangers apparently remained there only a short time before either leaving the service or moving on to less-inaccessible duty stations.[9]

Though most of the men who served at Kishenehn were Montanans and seasoned outdoorsmen, adapting to the daily life of a Glacier ranger still required a significant change of focus. A ranger's primary responsibility—monitoring the park's borders and protecting its natural resources—placed him in direct contrast to the North Fork's homesteaders, many of whom subsisted through the logging and hunting activities that Glacier prohibited. The early North Fork homestead community included both a growing number of settlers claiming National Forest land west of the river, as well as a handful of settlers within the park itself, who lived on grandfathered land claims filed prior to Glacier's 1910 establishment. This complicated the issue still further, since logging—and, for a time, hunting—could still take place on those private inholdings.

The dichotomy between resource policy and settlement lifestyle set the stage for fundamental conflict between the Kishenehn ranger and the people who were his only neighbors, a difficult situation that wasn't always successfully managed. The homestead land nearest Kishenehn was long owned by a man named Matt Brill, who operated the "Kintla Guest Ranch" on the property. Over the years, the Brill family became the good friends of some North Fork rangers and the adversaries of others; Kishenehn rangers could alternate socializing at the Brill place with days spent chasing Brill's trespassing livestock off of park lands. Persistent but unconfirmed North Fork rumors suggest that Brill and his dude-ranch guests, who had some political connections, finally had the last laugh by arranging for the transfer of one difficult North Fork ranger to Mount McKinley National Park in Alaska.

Glacier National Park Archives, West Glacier, GLAC 11549

BOTTOM LEFT: In the 1930s, with the completion of the Going-to-the-Sun Road, the park reduced the number of year-round ranger stations, shifting focus to areas that received more visitors. By the end of the decade, Glacier staffed Kishenehn only in the summer, and in later years the station stood empty except for the occasional ranger patrol. Here North Forkers Charlie Boyer (left) and Matt Brill cross an unidentified creek with their catch, enjoying the frontier lifestyle that characterized the world of Kishenehn and the North Fork country.

CENTER: By the 1930s, more of Glacier's rangers were married, and the presence of family members at the ranger station helped strengthen social connections between the rangers and the North Fork community. Glenn and Mary Ellen Miller marked their first wedding anniversary while Glenn was stationed at Kishenehn in the winter of 1935–36. This photo shows Mary Ellen with the pelt of a coyote Glenn shot that winter. Mary Ellen later recalled that Glenn gave her the bounty he received for the coyote kill, so she could treat herself to a permanent wave.

Glacier National Park Archives, West Glacier, HPF 3720

BELOW: Kishenehn's remoteness left its rangers largely self-reliant, connected to Polebridge and park headquarters only by notoriously undependable single-strand telephone lines. Strung through the trees, the North Fork telephone lines were often broken by deadfall and rendered unusable for extended periods. This 1938 view shows Civilian Conservation Corps enrollees transporting new telephone cable across Logan Pass, a modernization project that never reached Glacier's North Fork country.

Chasing Matt Brill's horses was an obvious and time-honored duty of the Kishenehn district ranger, one of many tasks that fell under the broad heading of resource protection. Beyond that overall goal, though, most new rangers arrived at Kishenehn with relatively little idea of the specific tasks expected of them. Dave Cannavina, who served at Kishenehn in the 1930s, recalled:

In those days you were sent out to a station and you were left on your own; you were on your own to figure out what you were supposed to do. I read the diary and saw what the other rangers had done, and kind of guided myself accordingly. And I knew that there were trails to open up in the early spring, and equipment to get into shape for firefighting; and maintenance of the station. I had two horses. In those days each ranger had to have his own saddle horse and pack horse and had to take care of the horses, feed them, mend corrals and pasture fences, and get food and supplies in.

Cannavina remembered most of his

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Kishenehn days as being focused on movement, traveling the district's trail network to observe wildlife, searching for poachers or other violations, and simply asserting an official presence in the area. Rangers were reportedly expected to complete three hundred miles of patrol per month, and the Kishenehn logbooks list an endless, repeating cycle of daily patrols, traveling each of the district's trails in sequence. Summer patrols were on foot or horseback, while winter journeys typically required the use of snowshoes. Round trips along the river and up Kishenehn Creek could be accomplished in a single day; the longest regular patrol circuit was a three-day loop that included overnight stays at Kintla Lake and Ford Creek. The patrol days were interspersed by twice-weekly trips to Trail Creek for mail, days spent repairing and maintaining equipment, and rare expeditions to Polebridge or West Glacier.

The surviving Kishenehn ranger station logs are uniformly dry and laconic, but they suggest that nearly all of the patrols from the station were thoroughly uneventful affairs. Reports of poachers, illicit border crossings, or other potential rule violations are almost wholly absent, casting doubt (at least in retrospect) on the necessity of Kishenehn's boundary protection mission. In contrast, the rangers at Polebridge and Logging Creek, both more accessible locations, reported occasional encounters with poachers, moonshiners, and other lawbreakers.

The Kishenehn work routine remained remarkably consistent, from season to season and from year to year. Weekends were nonexistent, and rare interruptions to the daily schedule usually took place only on major holidays and at the change of seasons. Late autumn generally meant a multiday trip to West Glacier or Kalispell to purchase winter supplies, provisioning trips to the outlying patrol cabins, and extra time spent preparing and maintaining equipment. Fall also saw the station's horses shipped out to their winter pasture. In the spring, reopening the trails and repairing telephone lines consumed considerable attention. Trail clearing was painstakingly accomplished with axes and saws, and rangers often spent days tracing remote telephone wires looking for breaks. Kishenehn's rare visitors—nearly always fellow rangers—typically came during the summer months, and some summers a seasonal fire guard would live at the station, doubling its official population.

The seven-day workweek of a back-country ranger left little time for leisure activity, though Kishenehn's isolation made socializing difficult at best. Most of Kishenehn's rangers were unmarried men, and their logbook entries made little mention of social events. Thanksgiving and Christmas were usually the only holidays noted in the diaries, though holiday celebrations at the station were uncommon. (Thanksgiving 1933 was a rare exception, when most of Glacier's west-side ranger force met at Kishenehn to celebrate the holiday.) Over the years, a few Kishenehn rangers routinely traveled to the Polebridge or Logging Creek stations to spend holidays with fellow rangers, while others stayed at Kishenehn alone, sometimes preparing solitary holiday meals, sometimes apparently not marking the day at all. The anonymous station logbook entry for December 25, 1930, is typical: "At station all day—taking care of Mr. Turkey. Weather is fine, clear; AM zero, PM 10." Another unsigned entry for Christmas 1934, though, was less satisfying: "Went to Trail Creek for food for Xmas dinner. Bad trip. Did not get back until 7:15 p.m. in the dark. A poor day." The ranger uncharacteristically took the twenty-sixth off as well to finally prepare his holiday dinner.

By the 1930s, more of Glacier's rangers were married, and some even had children; this changed the atmosphere of the back-country ranger stations considerably. Social activities took on a more visible role, with the North Fork community often embracing the Park Service employees more fully. A Depression-era Kishenehn ranger named Glen Miller brought his wife, Mary Ellen, to Kishenehn for the better part of a winter, and though her days were largely solitary, she reminisced about the time fondly:

"I liked it up there. Because you would be snowshoeing and everything was so calm and so peaceful, the snow was so white. I loved it, and I still do. . . . [W]e were living up there at Kishenehn for our first anniversary. We were just sitting and talking and had the radio going, and pretty soon we heard bells. And here comes Matt and Meta Brill. She had made a cake, and she had gotten flowers from her plants in the house, and some of the greenery and brought a bouquet. That was our first anniversary. I thought that was neat."

Single or married, many of Kishenehn's rangers clearly took to the life, in spite of the long periods of isolation, daily physical labor, and a largely mundane routine. Others tolerated the situation less well, and at Kishenehn this ultimately resulted in a tragedy. In the winter of 1925–26, Kishenehn's ranger was a young man named William McAfee, a Texan who had relocated to Montana and settled on a homestead near Trail Creek. The winter isolation took its toll on McAfee, as did a failed relationship with someone he described only as "the kid." Things grew worse when the Park Service laid him off due to a lack of funds while still asking him to remain at the station for the winter until he could be recalled to duty. On January 13, 1926, McAfee wrote to a friend in Kalispell: "You know, take it

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Glacier National Park Archives, West Glacier, HPF 9592
A small collection of early twentieth-century log buildings marked the Kishenehn Ranger Station on the northwest edge of Glacier National Park. The ranger stationed at this isolated outpost monitored the park's western boundary as well as the international border to the north, and patrolled a network of remote trails while working to protect the park's natural resources. In a rare break from their usually solitary lives, park rangers from several locations shared Thanksgiving at Kishenehn in 1933. Gathered on the porch, below, are (left to right): Elmer Fladmark, park headquarters; Channing Howell, Fish Creek; Joe Heimes, a long-time Glacier ranger; Ray Newbury, Lake McDonald; Andy Fleutsch, Kishenehn; Hugh Buchanan, Polebridge; Ben Miller, Walton; Hugh Peyton, Logging Creek. The boy is unidentified.

all in all, there are many disadvantages to a job of this kind. You know what I mean. A fellow is shut out from the outside world too much and at times the lonesomeness is almost maddening. So I am thinking very much of quitting the Park Service for good."[16]

McAfee's depression apparently worsened in the weeks that followed, and on February 7 he stepped outside the Kishenehn station and shot himself in the head with his service revolver. Local ranchers discovered the suicide soon after and telephoned the news to park headquarters. The tragedy was met with considerable consternation by park staff, who concocted a long press release stating that the thirty-five-year-old McAfee had died "probably from heart failure." Informed of McAfee's death, Park Service director Stephen Mather announced that he could be buried in the park, though McAfee's remains ultimately went to the Montana Veterans Cemetery in Columbia Falls. The other North Fork–area rangers traveled to the funeral, and they were given use of the park superintendent's new home the evening of the service.

The McAfee story was the only great tragedy in nearly three decades of year-round life at Kishenehn, a history largely defined by solitary days spent in the cause of protecting a remote corner of a grand national park. That legacy continued to play out into the 1930s, when the park rearranged its administrative structure to reduce the number of ranger districts and eliminate some year-round back-country positions. The change, a response to increased visitation caused by completion of the Going-to-the-Sun Road, marked an increased focus towards visitor service and, perhaps, a realization that guarding Glacier's borders was now less necessary. By the end of the decade, Kishenehn was staffed only during the summer months, and eventually even that ceased, leaving the station abandoned except for the occasional ranger on patrol.[19]

Today, the old Kishenehn district remains as remote and little visited as ever. Perhaps surprisingly, the buildings, patrol cabins, and trails all remain, though the old road to the ranger station—washed out in a 1964 flood—is now a primitive trail. The cabins still receive infrequent visits from park staff, now based in Polebridge, and, rarely, a ranger will still traverse some of the old patrol trails. One of Glacier's quietest places, Kishenehn exists today as a reminder of Glacier's early, formative years.

Mark Hufstetler first arrived in Montana in 1978 to begin a seasonal job in Glacier Park. Now a professional historian based in Bozeman, he specializes in the architectural and engineering history of the northern plains and Rockies, including Glacier.

photos by the Mistakis Institute

CONNECTING CRITICAL WILDLIFE HABITAT

Across busy Highway 3

by **THE MIISTAKIS INSTITUTE**

Fragmentation of wildlife habitat is a significant factor limiting the health of wildlife populations in many regions. Infrastructure such as roads makes it difficult for animals to move across the landscape. The Highway 3 transportation corridor has been identified as a major challenge to maintaining wildlife connectivity at the northern edge of the Crown of the Continent ecosystem. Maintaining connectivity- the ability of animals to move through the landscape to find suitable habitat, food and mates- is vital as the Crown of the Continent is one of the last places in North America that still hosts all of its native carnivores alongside an unbelievable diversity of plants and animals.

Highway 3 is a two-lane, east–west highway supporting 6,000 to 9,000 vehicles per day traveling over the Continental Divide at Crowsnest Pass in the southern Canadian Rockies. The current rate of wildlife–vehicle collisions involving large mammals along Highway 3 has raised concerns among agencies and the public regarding motorist safety. Although highway segments experiencing a high number of these collisions are predominantly found to involve deer, collisions also occur with less common species such as elk, moose, bighorn sheep, grizzly bear, wolf, lynx, bobcat and cougar. Further, there is pressure to twin sections of the Highway 3 transportation corridor on the Alberta side of the Highway 3 transportation corridor.

Ensuring healthy wildlife populations often requires conservation strategies that are collaborative in nature and build on the best available science- an approach that has been applied to the Highway 3 transportation corridor. Through a partnership between the Western Transportation Institute (WTI), the Miistakis Institute, and the Yellowstone to Yukon Conservation Initiative, solutions to maintaining wildlife connectivity across Highway 3 are being considered.

The partners brought together scientists, government agency representatives, Roadwatch (a citizen science program for reporting wildlife and wildlife vehicle collisions on Highway 3 - http://www.rockies.ca/roadwatch/) and other experts to identify key ungulate and carnivore movement areas across Highway 3. The result of this workshop was the identification of important crossing sites for wildlife; this information was made accessible to transportation planners working on the Highway 3 corridor. In addition highway mitigation experts visited Highway 3 to recommend a suite of options to improve wildlife movement opportunities and human safety. A summary of this information was presented as a report entitled Highway 3: Transportation Mitigation for Wildlife and Connectivity (http://www.rockies.ca/crossroads/files/H3%20Final%20Report%2007_01_10_FINAL%20SHORT%20VERSION.pdf). This report was generously supported by the Galvin Family Fund, the Kayak Foundation, Wilburforce Foundation, Alberta Ecotrust Foundation and Woodcock Foundation.

In addition to the identification of key sites for mitigation, WTI ran an economic model, developed by Marcel Huijser, to compare the cost of mitigation against the costs to society of wildlife-vehicle collisions. Highway 3 was the first local highway where wildlife vehicle collision data was used to understand the costs associated with collisions versus costs of mitigation. The model determined that for many sites along the Highway 3 transportation corridor it made sense from an economic perspective to implement mitigation as there would be a costs savings to society.

Great progress is being made on the Alberta side of the Highway 3 transportation corridor. Project partners are working with Alberta Transportation to identify two mitigation sites: Crowsnest Lakes and Rock Creek. Crowsnest Lakes is a mitigation site proposed to protect bighorn sheep, mitigation measures recommended fencing bighorn sheep off the highway at key collision hotspots. The sheep would be monitored to determine if shifting their crossing to safer locations on the highway (straight open sections) helps to reduce the number of collisions. The Rock Creek mitigation site represents the highest collision zone within the study area for ungulates and is also an important movement area for carnivores. Mitigation recommendations for this site include; development of a single span underpass with fencing to encourage wildlife to use the new structure. Implementation of these mitigation measures will go a long way to reducing wildlife vehicle collisions and improving human and wildlife safety wildlife along the Highway 3 Transportation Corridor.

Affiliated with the University of Calgary, the Miistakis Institute is a non-profit organization that undertakes and supports both pure and applied research respecting the ecosystems of the Rocky Mountains and surrounding regions. It also assists in the development and implementation of collaborative ecosystem management. To learn more about the Institute and its activities, check out its website at www.rockies.ca.