



THE WEST SLOPE

Flowing Toward the Pacific





The Roof of the Canadian Rockies

Mount Robson Provincial Park

TAKAKKAW FALLS, WILD IN THE WIND

This waterfall in Yoho National Park is one of many waterways that flow to the Pacific. In the language of the Stoney peoples, *Takakkaw* is an exclamation of wonderment. At more than 400 metres, Takakkaw is the tallest waterfall in the Canadian Rockies. It is also one of the features in the Rocky Mountains that may be most diminished by the effects of climate change.

Photograph by R.W. Sandford.

LOCATED A HUNDRED KILOMETRES west of Jasper, Mount Robson Provincial Park is the second oldest of British Columbia's parks. At 3,954 metres, Mount Robson is the highest peak in the Canadian Rockies. The mountain is so big it creates its own weather. When it is not in cloud, it dominates the skyline.

Mount Robson Provincial Park provides everything from developed, vehicle-accessible camping to remote valleys that seldom see a human footprint. More importantly, it also protects the headwaters of the Fraser River, one of the great salmon rivers of the West and one of the few major rivers in southern Canada that has not been dammed.

Flora and fauna are typical of the wetter western-slope climate, with trees like cedar and hemlock. The park also exhibits a great deal of vertical diversity. On some trails one is able to travel between three different vegetation zones during a day hike. Over 182 species of birds have been recorded in the park. All wildlife indigenous in the Rocky Mountain can be found here. Mule and whitetail deer, moose, elk and black bears are found through the lower valleys of this 2,170-square-kilometre protected area. Higher-elevation species include the grizzly bear, mountain goat, bighorn sheep and, for the moment at least, the mountain caribou.



**MAP OF MOUNT ROBSON
PROVINCIAL PARK**

*Courtesy of Ali Buckingham,
Parks Canada.*

The human history of the park area is as interesting as its geography. Most of that history is associated with attempts to reach the daunting summit of Mount Robson. The value in looking at that history resides in the knowledge it presents of what altitude does to landscape, especially in more northerly latitudes in Canada. A vertical kilometre or two above our heads, it is possible to experience a completely different planet than the one we take for granted living in the valley floor. Mount Robson provides an object lesson in understanding the ecology of cold that defines the identity of those who live in the mountain West.

One of the most celebrated figures in the history of Jasper National Park and adjacent

Mount Robson Provincial Park is Donald “Curly” Phillips who came from Ontario to live in the Rockies in 1908. The legend of Phillips begins with an odd association with an eccentric mountaineer who became the centre of a decades-long debate over who made the first ascent of Mount Robson.

George Rex Boyer Kinney was born in New Brunswick in 1872. Like his father, Kinney joined the clergy, and during temporary postings in Banff and Field he developed an interest in geology and the mountains. In 1900 he received a permanent posting in James Bay, near Victoria, B.C., and began mountaineering during his long summer vacations.

In 1907 he accompanied the brothers Arthur and Lucius Coleman to Mount Robson. The expedition was largely unsuccessful. The party, unfortunately, arrived very late in the season and was driven from the flanks of the mountain by heavy snows. Despite these hardships, Arthur Coleman made plans to return with Kinney the next year, but with an experienced outfitter and guide. The 1908 expedition set out from the Yates ranch on the west side on Lac Ste. Anne near Edmonton on August 4 and camped at the foot of the Robson Glacier on August 28. In the three weeks they spent in the cold shadow of Mount Robson, only twice were there two days in succession when the weather was good enough for climbing. But even when the weather was good, the mountain was in no condition to be climbed. In the face of these horrendous conditions, only Reverend Kinney seemed anxious to apply his energies to the



AT BERG LAKE

Because it is so close and so big, Mount Robson is difficult to photograph from Berg Lake. For those who walk the twenty or so kilometres in to the lake, the biggest reward is to simply contemplate the glory. This image suggests why many early travellers maintained that it was impossible to go to Mount Robson and not come back changed.

Photograph by Vi Sandford.

mountain. For Kinney, the summit of the highest peak in the Rockies was becoming an obsession. Kinney set out alone. Bad weather ensued. The snow-squalls became fierce tempests that nearly swept him from his footing and hid everything above, so that advance was impossible. Finally, in a howling blizzard at a point well above 10,000 feet (3,048 m) as shown by an aneroid barometer he carried, he decided that to go farther would be madness, and turned back.

Over the winter of 1908–1909, Kinney made plans to climb the mountain without the Colemans. At the same time he received word that a substantial “foreign expedition” composed of Europeans had set its sights on Mount Robson and were planning to attempt the first ascent as soon as the Alpine Club of Canada camp was completed at Lake O’Hara in the summer of 1909. A.O. Wheeler had invited to the camp some very competent members of the British Alpine Club: Arnold Mumm, scion of the famous family of Champagne makers, Leopold Amery, a Member of the British Parliament, and climber Geoffrey Hastings. Hastings had also brought along a friend, A.G. Priestly, and Mumm had furnished



MOUNTAIN GOAT

The mountain goat is a perfect symbol of Mount Robson Provincial Park. They are tough creatures that have adapted over millions of years to brutal cold and long winters. They live at altitudes and in conditions that no other animal would survive. They are also outstanding mountain climbers.

Photograph by R.W. Sandford.

the expedition with his personal guide Moritz Inderbinen. Their plan was to use the O'Hara camp as a tune-up exercise to prepare for a really ambitious project on Mount Robson. It was clear to Kinney that an expedition of this magnitude would very well destroy his dream of capturing Mount Robson for himself. He quickly recognized that he would have to act with great dispatch and, if necessary, be on

the mountain even before the summer's heat made it ready to climb. Kinney immediately contacted outfitter John Yates, suggesting an early June departure. When he arrived in Edmonton he was met by a letter from Yates in which the outfitter refused to go owing to the heavy snows that lingered on from the previous winter. Kinney continued on alone. Yates was contracted by the Mumm-Amery party three weeks later.

After a difficult journey, Kinney arrived at the home of John Moberly seven miles (eleven kilometres) above Jasper Lake on July 11th, and there met the young local trapper and guide named "Curly" Phillips. For Phillips, it was a fateful meeting. For Kinney, Phillips was a godsend.

Phillips was born in the township of Dorset, Ontario on April 15, 1884. His father was an accomplished woodsman and taught his son the skills of hunting, trapping, fishing and canoeing. In 1908 Phillips and a friend decided on an adventure in the west. Phillips arrived in Field, where he found a job working on the construction of the Spiral Tunnels on the Big Hill leading up to Kicking Horse Pass. For a man used to being outdoors, the wet confinement and the danger of working in a tunnel were unbearable. It didn't take long for Phillips to decide the work wasn't for him.

After discussing guiding possibilities with Jim Brewster in Banff, Phillips decided that the Bow Valley was already too crowded for his liking. He made his way to Jasper and found the last real vision in southern Canada of truly expansive and still extant wilderness. After working briefly on the Grand Trunk Pacific Railway, Phillips bought a small string of horses and set out with limited mountain experience to become a guide and outfitter in a land he barely knew. It was this inexperience, and his strong need to prove himself by gaining a paying

client, that George Kinney was able to exploit and thus entice Phillips into joining his dangerous adventure. An experienced guide and outfitter might have pronounced Kinney mad but Phillips went blindly and enthusiastically along for the ride.

The journey to Mount Robson from Jasper did not go particularly well for Kinney and Phillips. It appears there was confusion over how much food each actually had to contribute to the expedition and it soon became obvious that lean times were ahead for the adventurers. In his obsession with reaching the mountain, Kinney gave little regard to the organization of his camp and the requirement for supplies.

On July 25, 1909, Kinney and Phillips made their first reconnaissance on the mountain and established Camp High Up. The next morning they started for the summit but were repelled by avalanches. They camped again at Camp High Up on the night of July 28 and the next morning went again for the summit, this time ultimately reaching an unclimbable rock face at 11,000 feet (3,353 m). Avoiding this obstacle took considerable time and the party was forced to retreat from the 12,000 foot (3,658 m) level when night fell. On their descent, they discovered that the gullies they ascended were now dripping with water and that the steps they had cut into the ice slopes had melted away. It appeared to them that the entire face upon which they had been climbing was avalanching away. Then, as so often happens in mountaineering, bad weather arrived.

It stormed for days. On August 9, a third attempt on the mountain was turned back by falling snow. It wasn't until August 12 that the weather cleared and the two climbers could look up from their steady and monotonous diet of birds and marmot meat to see the summit of Mount Robson. They made their way above their previous camps to 10,500 feet (3,200 m) and bivouacked on a few flat slate stones from which they had chipped away the ice.

Friday the 13th dawned cold and clear but with what appeared to be storm clouds gathering in the south. Using their blankets to shield them from the wind, Kinney and Phillips made a small fire with a handful of sticks to boil a can of stew. After the meagre meal they started up the west side of the upper peak. The snow was good and the rockwork, though very steep, offered little resistance to their advance. Working their way south they crossed several ridges, stopping finally at two long cliffs that formed horizontal ramparts around the entire peak. As they overcame this obstacle, the summit became obscured by cloud. Kinney was near the end of what he could endure:

For a moment I stood silent, and then turning to my companion said: "Curly! my heart is broken." For a storm on the peak meant avalanches on that fearful slope, and there would be no escaping them, so I thought we would have to turn back, and our provisions were now so low that we would not have enough to make another two-day trip on the mountain. It meant that this was our last chance; but to my surprise, it did not snow much, the clouds being mostly dense mist. In a few minutes I said, "Let us make a rush for the little peak," meaning the north edge of the peak which was directly above us. "All right," says Curly, from whom I never heard a word of discouragement, and away we started, keeping to the hard snow slopes.¹

They climbed the second of the long rampart of cliffs that form black threads across the white of the peak, and swinging again to the south made their move for the highest point of the mountain. They spent hours on the broken cliffs, standing erect in their footholes on the near vertical faces below the summit.

Within five hundred feet (152 m) of the summit, the climbers encountered the famous overhanging ice that plagues every mountaineer who climbs this far on this route on Mount Robson. They encountered the famous hoar towers where the almost perpetual wind had formed bizarre and alien cornices of dry and crystalline snow. Floundering at last through the treacherous cornices, Kinney thought he could at last claim victory over the white, eternal snows. And now the most remarkable tale of them all:

I was astonished to find myself looking into a gulf right before me. Telling Phillips to anchor himself well, for he was still below me, I struck the edge of the snow with the staff of my ice axe and it cut in to my very feet, and through that little gap, that I had made in the cornice, I was looking down a sheer wall of precipice that reached to the glacier at the foot of Berg Lake, thousands of feet below. I was on a needle peak that rose so abruptly that even cornices cannot build out very far on it. Bearing my head I said, "In the name of Almighty God, by whose strength I have climbed here, I capture this peak, Mount Robson, for my own country, and for the Alpine Club of Canada."²

It took them seven hours to descend to their high camp and three hours more in the gathering storm to make their way into the valley. On their return they met the Mumm-Amery expedition at Jasper Lake and announced they had climbed the peak by way of the rocks on the northwest side of the mountain. In his report to the Alpine Club of Canada published in *The Canadian Alpine Journal* in 1910, Amery heartily congratulated Kinney for his stubborn determination and "remarkable pluck." He added also that a Canadian ascent of the mountain removed the "American peril," implying it was much better for an



MOUNT ROBSON: ICE AGE PEAK

For mountaineers, Berg Lake is not the end of the trail but the beginning. Above the lake the landscape becomes vertical. Each step of the way upward is an advance into the same climatic conditions that exist at Earth's poles. Each step upward is also a step backward into time: Mount Robson is still very much in the embrace of the last Ice Age. Photograph by R.W. Sandford.

Englishman to be the first on the top of the highest mountain in the Canadian Rockies than for an American to usurp the honour. In his official report on the climb published in the same 1910 *Canadian Alpine Journal*, Kinney made no mention of the fact he, too, had dearly wanted to scoop the first ascent away from the “marauding foreigners” who never made it near the summit. In addition Kinney claimed that during the twenty days at Camp Robson, they had captured four virgin peaks besides Mount Robson, and that they had made twenty-three big climbs of adjacent but lesser mountains.

It was not long, however, before Kinney's claim to the summit of Mount Robson was being debated in serious mountaineering circles. For some, Kinney's story just didn't add up to a successful ascent. Members of the Alpine Club of Canada were discreet in

their challenge, for who was to doubt the word of a fellow climber who also happened to be a clergyman. Nonetheless, A.O. Wheeler doubted Kinney's story enough to send another team to Mount Robson, an action sufficient to cause Kinney to withdraw from the Club and from active engagement with contemporary mountaineering circles.

Four years later, at an Alpine Club camp at Mount Robson in 1913, Curly Phillips let the cat out of the bag by telling an Austrian guide that he and Kinney had fallen slightly short of the goal. He admitted that they had reached in the midst of the storm an “ice dome fifty or sixty feet high” which they had taken to be the peak but was not the actual summit. The danger had been too great to climb the dome. Curly Phillips was not a mountaineer, so a few feet of rock off the top of the

mountain meant little to the overall scheme of his involvement in the climb. Furthermore, no one had ever asked him if the summit had actually been made, so, true to cowboy custom, he said nothing.

“GENTLEMEN, THAT’S AS FAR AS I CAN TAKE YOU.”

THE ALPINE CLUB OF CANADA camp was held at Robson Pass and began on July 28, 1913. Sixty-five climbers attended. Among them were some famous mountaineers. A.L. Mumm was there with his personal guide, Moritz Inderbinen of Zermatt. Professor Charles Fay and Charles S. Thompson represented the American Alpine Club. Albert “Mac” MacCarthy was present; so were B.S. Darling and William Foster, the Deputy Minister responsible for Public Works for the Province of British Columbia. A number of soon-to-be famous female climbers and explorers were also present at the camp, including Caroline Hinman and Mary Jobe Akeley. Alpine Club of Canada secretary Elizabeth Parker was also there with her daughter Jean. Curly Phillips was there as outfitter. The way was now open for a first ascent of the mountain and Conrad Kain was certain he would lead it.

Kain’s plan was to achieve the southeast ridge of the mountain by way of the rock to the left of the hanging glacier that falls down the face to the Dome snowfield. This plan was predicated on Kain’s ability to get his two charges, William Foster and Mac MacCarthy, over the bergschrund that separated the glacier from the rock wall above it.

By noon they crested the ridge, the first serious obstacle behind them. Following the ridge, they confronted the shoulder, a series of steep ice walls fifteen to twenty metres high. Beyond these the climbers got their first glimpse of the summit. From the shoulder to the peak the route was not so dangerous. Complications, however, arose from walls of weirdly patterned snow as they approached the summit. Some of the walls were twenty metres high and composed of snow that crumbled at the touch. Kain, in all the years of his climbing, had never seen such formations as these. The unusual snow conditions made it difficult to climb from one snow-covered rock terrace to the next. Eventually more ice steps had to be cut to make a route over a particularly steep place near the top of the terraces. At about 5:30 p.m. they came at last to the short, steep snow slope leading to the apex of the Rockies. The summit was a snow-ridge. Kain turned to his exhausted companions and said, “Gentlemen, that’s so far as I can take you.” Mount Robson had at last been climbed.



THE AVALANCHE PATH

The earliest trail from the Yellowhead to Mount Robson passed under a steep wall of the mountain. The trail remained in use until a huge powder snow avalanche thundered down the peak. Winds created by the avalanche were estimated to be around 500 kilometres an hour. When the wind hit the giant cedars at the base of the mountain, it snapped the trees off at the point where branches began to offer resistance to the blast. The trail has since been diverted away from this hazardous route. Photograph by R.W. Sandford.

After ten minutes, the climber's teeth began to clatter and their wet rope and clothes began to harden in the bitter wind; they began their long descent. As is always the case in mountaineering, the summit is only halfway and a disproportionate number of accidents and deaths occur on the descents of difficult peaks. In the case of Mount Robson, the story of Kain's descent has almost been forgotten but it was a long and dangerous one. The climbers didn't reach camp until 5:00 p.m. the next day. Kain concluded the episode with these remarks, as true today as they were nearly a century ago:

In all my mountaineering in various countries, I have climbed only a few mountains that were hemmed in with more difficulties. Mount Robson is one of the most dangerous expeditions I have made.³

Thus ended the controversy over Reverend Kinney's claim on the first ascent of the

highest peak in the Rockies. Kain, however, argued until his death that Kinney and Phillips deserved more credit than he in that they had been only two with a single rope between them. He pointed out that the railway did not reach so far in 1909 and the pair had overcome obstacles that did not confront those who attended the historical Alpine Club camp of 1913. Kain has a point. With each passing generation, more climbers make the summit of Mount Robson, each walking in the very steps of those who made the ascent before them. But somehow the experience remains completely undiminished. It is still just as wild and dangerous on and around Mount Robson as it has ever been and just as magical. Even the most casual visitor to Mount Robson can share in this sublimity. All one has to do is look up.

In Mount Robson Provincial Park there are a lot of spectacular places to look up from. A twenty-kilometre trail begins at the Robson River Parking Area just off the Yellowhead Highway. This trail offers the traveller as much or as little as they have the time and strength to commit to their visit. In less than an hour, one can walk to beautiful Kinney Lake. If you have three hours you can walk to Emperor Falls. If you are prepared

to backpack you can walk to Berg Lake below the towering Mount Robson in less than a day. From Berg Lake you can walk all the way back to Jasper via the North Boundary Trail. And everywhere you look there will be water or evidence of what water is and does in the headwaters of the mountain West.

Few are those who come back from such places unchanged. Local culture was defined initially in the mountain West by what experience of the peaks does to human sense of time and timelessness. Today, however, the focus of experience is gravitating toward ecosystem understanding that revolves around concerns related to how global warming will affect the high altitudes and latitudes of the world. Because they are largely defined by the alpine tundra zones that compose them, parks like Mount Assiniboine figure largely in these concerns.

MARMOTS IN THE ROCKIES: CLIMATE CHANGE EFFECTS ON NATURAL ECOSYSTEM FUNCTION

IN 2009 A NEW BOOK appeared on the subject of what was happening to nature in a warming world.⁴ Written by a highly respected American scientist named Anthony Barnosky, *Heatstroke* is of particular interest to those with a passion for the natural history of the mountain West due to Barnosky's extraordinarily revealing research on climate change impacts on marmots and other high-altitude species that are common also in Mount Robson Provincial Park, and in the Canadian Rockies.

Barnosky holds that, because the species has survived many earlier changes in climate, alpine species such as the marmot are climate-change bellwethers. Fossil evidence gathered by Barnosky suggests that marmots have been part of North American mountain ecosystems for close to a million years. He observes that if there was any species that ought to be adaptable enough to persevere through climate change events it should be the marmot.

Marmots emerge from hibernation sometime in the spring, usually in April or May, just as the fat reserves laid down during the previous summer are exhausted. The environmental cue for them to come out of hibernation and leave their burrows is air temperature, which in ideal circumstances has been melting the snow outside the marmot's burrow while at the same time stimulating the growth of fresh new shoots of plants marmots thrive upon.

Barnosky's research in Colorado indicates that in 1999, marmots in Colorado were emerging from their burrows about twenty-three days



HOARY MARMOT

The delicately tuned evolutionary mechanism that has been genetically coded into the climate-control survival strategy of marmots – a mechanism that has allowed them to survive recurring ice ages and warming periods in the past – is under siege. Due to changing climate, the environmental circumstances marmots are presently experiencing are different from what they have had to face in the past. Mountains are ecological islands. To keep pace with change, marmots have no place to go but up. Some ecologists fear that marmots are going to be forced upward and northward into extinction.

Photograph by R.W. Sandford.

– the better part of a month – earlier than they were in the 1970s. Meanwhile, in Colorado at least, more winter snow is falling each year and even increasing spring temperatures cannot melt the snow fast enough to permit plant growth to occur before the marmots end their annual hibernation. Starving marmots are coming out of hibernation, finding no food, and they are dying.

As Barnosky explains, the delicately tuned evolutionary mechanism that had been genetically coded into the climate-control survival strategy of marmots – a mechanism that has allowed them to survive recurring ice ages and warming periods in the past – no longer works. The climate change circumstance marmots are presently facing is different from what has occurred in the past. This may also be the case for other hibernating animals, including bears.

Barnosky, who is a fine storyteller, introduces the reader to an Idaho hunter named Jim Martell who in April of 2006 paid fifty thousand dollars for an opportunity to shoot a polar bear on Banks Island in the Canadian central high arctic. Martell was lucky in that he spotted a bear and was able to shoot it. But when he and his guide-outfitter examined the kill they found something completely amazing. The bear he had killed had the cream-coloured fur typical of a polar bear, but it also had a hump on its back, long claws, a shallow face, and brown patches



PIKA

The pika, also known as a rock-rabbit, is active all year round. In this way, it is unlike the marmot, which hibernates during the winter. The pika is increasingly seen as an indicator of how climate change may be effecting the established ranges of many arctic and alpine species in the Rocky Mountains. Both marmots and pikas can only survive within very limited ranges of temperature, which are being exceeded more often as a result of generally warmer temperatures.

Photograph by Vi Sandford.

around its eyes. In other words, it had the nose and back typical of a grizzly bear. DNA analysis revealed that Martell's trophy had a polar bear mother and a grizzly bear father.

The real story here is not the unusual nature of the hybrid bear. The story, Barnosky points out, is that ranges are changing

faster than the species that occupy them can adapt. Polar bears are on their way out. Possibly that is why the polar bear female did not mate with a male of her same species. Grizzlies are advancing poleward. This kind of phenomenon isn't just happening in the north. Ecologists are currently witnessing an inexorable march of species in all directions, but principally away from the equator or upward in elevation, as species race to track the shifting climates they require for life.

Barnosky notes that in the geological past, tracking necessary habitat through changing climates wasn't as much of a problem as it is today. What is different today is that climate change is occurring at a rate faster than it ever has during the evolution of living species and ecosystems. Where species are already confined to protected nature reserves – which is exactly the case with many of our most charismatic species including grizzly bears, pandas, lions, tigers, elephants and all but one of the great apes – changing climate invariably means they would have to leave the bounds of the nature preserve or national park in which they are protected in order to follow their habitat to where climate change is moving it. This, however, would mean moving into surrounding areas where potential habitats have already been destroyed, or where conflict with people would mean their rapid demise. This is no small point. Because there is no longer supporting habitat adjacent to these areas, the species protected within them are now faced with almost certain

extinction. In other words, climate change has undermined the purpose and function on our entire global protected places strategy.

Barnosky points out that the rate of change is a serious matter. The “new” climate emerging out of anthropogenic change may be very different than anything that has ever been experienced before by species alive today. By 2050, for example, it is likely to be hotter than at any other time in the history of *Homo sapiens*. Many climate change scenarios suggest that by 2100 it may be hotter on Earth than has ever been experienced by any current mammal or bird species. Our climate is spinning out of equilibrium and there is no going back.

Barnosky fears that with the off-the-scale warming that is currently occurring, we are crossing known ecological thresholds as well as invisible environmental and social thresholds we did not know existed. It will not just be species that disappear but the niches these species once occupied. Gone also will be the interactions between species that filled once-existent niches. What many ecologists fear is that what may very well disappear is nature’s fundamental capacity to continue its trial and error mechanism of ecosystem construction and restoration. As Barnosky points out, we are losing critical ingredients in life’s recipe, critical parts of the ecological machine. We do not know how to restore biodiversity when it is gone. Species by disappearing species we are heading toward decline of planetary life-support function.

Barnosky observes that mountains are becoming climate change refuges for humans as much as for other species. Current species associations, however, can still be expected to disappear even in the Rocky Mountains. At the same time we should expect that species like the pine bark beetle and blister rust will move quickly into the abandoned landscapes and new ecological niches warming will create. We may not be able to reintroduce species lost to climate change because their habitats may have been altered beyond these species’ capacity to survive in them. This will mark the end of familiar conservation philosophies and strategies. It may also mark the end of our relationship with nature, as we have known it since time immemorial.

In conclusion Barnosky confirms what so many have feared. Our problems are multiplying faster that we can address them. When we focus on one problem, such as climate change, we discover it is actually several problems rolled into one and all of them are converging upon us at the same time in a single generation. Add climate change to relentless human population growth, the introduction of species to where they

don't belong, and habitat fragmentation, and you get a recipe for extinction.

As our house of cards collapses, one question leads to another. At what point will the reality of what we have done to the world converge upon us? How much intervention are we prepared to undertake; how much can we afford to do before we have to let the animals out of the zoo? When will ecological necessities start to drive our management strategies? When will protecting ecosystem service provision trump saving particular species and wilderness values?

Looking up at Mount Robson we are reminded we are not the centre as we once thought. Nature will continue no matter what we do. It is not likely that nature will turn against us, but what we are turning nature into might. The changes we are affecting will not alter the fact of life, but they could very well and very quickly make the planet largely uninhabitable, not just for the species trapped in our national parks and wildlife reserves, but also for us.

In order to sustain our civilization, we need a new ethic upon which to base the way we live. In the creation of that ethic we more than ever need wilderness, or whatever is left of it, as a baseline. We need to ask ourselves two questions right now. The first question is this: how can we protect species whose last stronghold in protected areas is threatened by climate change? The second question is this one: What are we trying to keep whole in ecologically protected areas?

The ever-hopeful Professor Barnosky believes we can still do it all. Citing an emerging scientific field called reconciliation ecology, which involves respecting urban and agricultural ecosystems as part of a planetary ecological whole, Barnosky believes we can simultaneously sustain global ecosystem integrity, save individual species, and ensure the perpetuation of wilderness. He provides a mantra that should become familiar to anyone working in biodiversity protection in the mountains of the North American West: keep, connect and create. That is as good a place as any to begin. And that is exactly what we are trying to do in the Canadian Rocky Mountain Parks World Heritage Site.