



The Road to Radium

Kootenay National Park

FOR MOST PEOPLE, VISITORS and locals alike, 1,406-square-kilometre Kootenay National Park is defined not by what we saved but by what we built. The best-known feature in Kootenay is the 94-kilometre-long highway that slices right through its heart. Highway 93 branches off the Trans-Canada and enters the headwaters of the Kootenay River at Vermilion Pass, where it crosses the Great Divide into British Columbia. After tracing the footsteps of James Hector to and along the Kootenay River, the blacktop then cuts up Sinclair Pass and right through Sinclair Canyon to Radium and the Columbia River. Many Albertans, in their great hurry to reach their condominiums in Invermere and Fairmont Hot Springs, have to a large extent lost their capacity to see anything of interest in the landscape blur that separates them from all their weekend fun. It is a perfect place, therefore, to contemplate how the automobile has shaped our experience of the mountain West, and how it threatens the very experiences it made accessible. Only by understanding the impact of the automobile in our national parks can we save ourselves from negative effects of its impacts.



**MAP OF KOOTENAY
NATIONAL PARK**
*Courtesy of Ali Buckingham,
Parks Canada.*

THE ROLE OF THE ROAD IN LANDSCAPE PERCEPTION

IT IS VERY DIFFICULT to imagine today the impact that the automobile had on the way of life enjoyed in the Canadian West in the nineteenth century. The automobile was perfected at about the same time the Prairie provinces were created, and it soon affected almost every aspect of the developing economy and society in the West. The car almost instantly increased individual mobility and became closely associated with status. It defined fashion. It increased social mobility and opportunity. It reformed the experience of travel and refigured rural life. The automobile stimulated the migration of farm families to cities, which in turn were transformed by

their need to accommodate this new and highly demanding transportation technology.

The car had huge impacts on urban design, architecture and community. The automobile created a petroleum industry in the Canadian West and linked it to a consumer-based economy. It revolutionized the delivery of goods and services and accelerated our way of life. No other modern technology has so defined who and what we are. To understand the magnitude of these impacts, we have to know what our culture was like before the car.

Before the car, there was the train. Before the train, there was the horse. Before the horse, people travelled on foot in the Canadian West. For perhaps fourteen thousand years, walking was the only mode of travel. Confronted with the immense scale of the West, the limitations of foot travel are obvious. It is slow. The limit of what you can own is defined by how much you can carry. The limits of your carrying capacity then become limits to the complexity of the society you can create. Simple societies are often small. While travelling on foot allowed one to experience landscape more intimately, this means of travel ultimately limited one's sense of place. It was hard to appreciate where you were, because there was no way to leave it so that it could be witnessed comparatively from without.

The horse appeared in the Canadian West in about 1730. The horse accelerated First Nations way of life and tied people into other advances



EARLY CAR TRAVEL

Kootenay National Park was, in effect, created around a vision of a road that would permit the use of the revolutionary new technology of the automobile to transport people from Banff to Radium Hot Springs and on to Windermere. Here we see an early Ford Model T at Sinclair Canyon just north of Radium, just after the road was finished in 1923.

Photograph from the Byron Harmon Collection, courtesy of the Whyte Museum of the Canadian Rockies, Banff, Alberta.

that would eventually alter their way of life forever. One of those advances was the train. The age of the train was heralded as the new Age of Speed. The earliest steam locomotives were capable of smooth travel at over thirty miles per hour (more than forty-eight kilometres per hour). A whole new geometry created itself around the train and the level track it rode upon. The train had a profound capacity to move materials and people. Communities grew up around the tracks. Within only two years of the completion of the Canadian Pacific Railway in 1885, an entire new, non-native material culture was transported and then deposited in the West. Instead of following the sinuous paths of rivers, the train cut straight lines through the West. Through the establishment of regular schedules, the train brought time into play. It was the advent of public transit. Just as the horse had done, it made us dependent upon it and tied us into further technological innovations that would further accelerate our way of life in its wake.

The scientific and manufacturing breakthroughs that permitted the widespread application of train technology were a product of a larger industrial revolution that swept the globe. These breakthroughs included revolutions in the understanding of metallurgy, the widespread availability of rubber and glass, a new understanding of how to create and control electricity, and the birth of the internal combustion engine. Invention fed upon invention. It was only a matter of time before the mass production technology and affordable distribution would lead to a self-propelled vehicle that would replace the horse as a means of personal transport.

Because they are directly linked to patents, the steps toward the invention and perfection of the automobile have been well documented.¹ The first internal combustion gasoline engines appeared in Europe as early as 1860. A four-cylinder engine was invented by Nicholas Otto in 1878. In 1885, a German engineer named Carl Benz created the first commercially feasible vehicle, a 0.8 horsepower tricycle car. There was an explosion in interest in development of the new technology. The first front-mounted engines appeared in 1890. Shortly after, car

racing became a popular means of drawing public attention to the new technology as it was tested and improved in demanding driving situations on early tracks and roads.

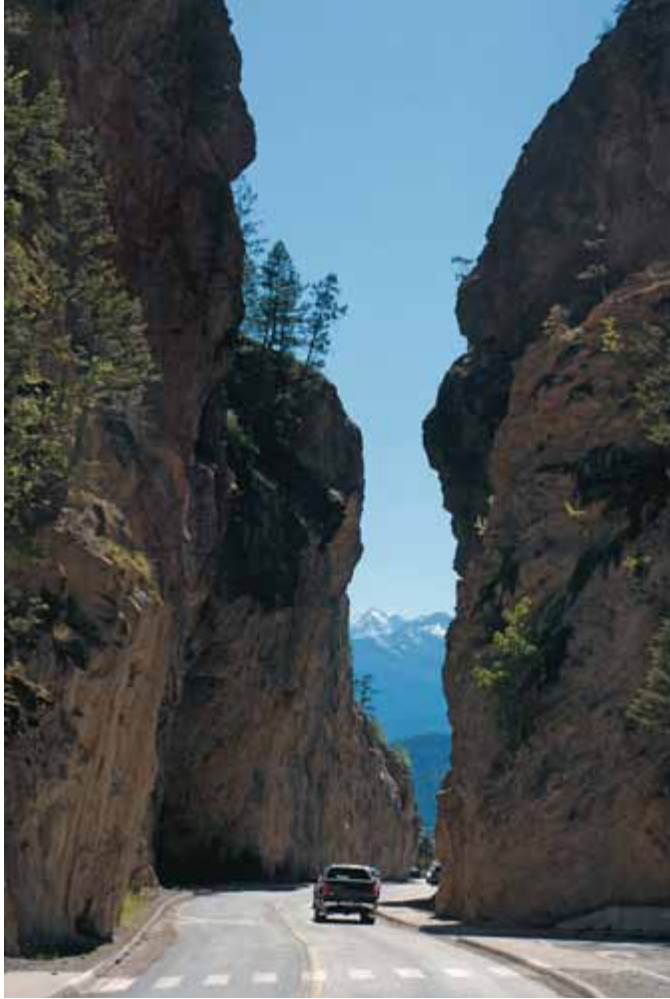
By 1905, the year the provinces of Alberta and Saskatchewan came into existence, the automobile industry even in Canada was well enough established to offer reliable and affordable cars to the public. Soon Henry Ford's assembly line technology dramatically reduced the cost of a car and democratized its use. But creating a car was one thing; operating it was quite another. An entirely new infrastructure was required to fuel, service and repair this exciting new technology. Then, there was the problem of roads. In understanding the huge impact of the automobile on the horse-driven society that preceded it, one must appreciate the importance of roads to settlement and commerce in the prairie and mountain West.

As historian John Nicks reported, there was no such thing as public works in the West before 1870. Rivers were the primary transportation routes. Except in the mountains, where formal routes had been established and marked to prevent travellers from losing their way among the peaks, the few trails that existed on the prairies led to the easiest and safest river fords. As fur trade posts were established, trails between centres began to be cleared and maintained.

When missionaries began to establish permanent settlements, trail networks emerged to connect them. By the mid-nineteenth century, many of the early trails were maintained to a level that would allow regular passage in dry weather by horse-drawn carts and wagons. With the formal passage of these lands from the hands of the Hudson's Bay Company to the Dominion of Canada in 1870, responsibility for maintenance of these primitive roads fell to the federal government and its territorial administrations.

The primitive nature of road development in the West was put into relief in 1874 with the arrival of the North West Mounted Police. By the time the main force arrived in southern Alberta, it had left behind a trail of crippled and dead horses, oxen, abandoned carts and footsore Mounties. A second troop with a larger number of wagons followed the "well-established" Carlton Trail but found the conditions along it so difficult that they had to virtually remake the road in order to pass over it.

Steps to improve trails had to wait ten more years until 1884, when major routes in the West were designated as public highways and orders were given by the Department of the Interior for them to be surveyed with the right of way to be vested with the Crown. This did not mean,



SINCLAIR CANYON

Sinclair Canyon is a great slit composed of bright red rock, through which the traveller gains both physical and ceremonial access to the Columbia River Valley. The Columbia is the Great River of the West in North American historical mythology.

Photograph by R.W. Sandford.

however, that the roads were to be improved. Any construction, J.S. Dennis reported in 1898, tended to be “of a light and inexpensive character suited to the then sparsely settled condition of the country.”²

With the exception of a few steel spans over the larger, permanent watercourses, road improvements in the pre-automobile days were generally limited to wooden bridges, bridge and ferry approaches, a few culverts, stretches of log corduroy through boggy areas, and occasional grade improvements on steep hills. Road improvements during this time were paid for through set allocations assigned to each electoral division. The work was usually carried out by local contractors using their own primitive equipment.

As settlement advanced, villages appeared along the CPR tracks in newly opened

agricultural areas. As these villages grew into towns, local government expanded the basis upon which public works could be funded and carried out. As agricultural development intensified and expanded, the need for better roads for farmers to carry their products to market became apparent and electoral districts began to take over responsibility for their own road systems. The work was usually low-cost and the quality marginal due to inadequate supervision over the design and execution of projects.

A major change in government structure in 1897 created a Federal Department of Public Works that was directly responsible for the construction and maintenance of roads and bridges in what was then the North West Territory. The latest earth-moving equipment was purchased and road building began slowly but in earnest in the West.

When Alberta became a province in 1905, all government functions including road building and maintenance were transferred to new provincial departments. The new Alberta Department of Public Works took on the responsibility for the construction and improvement of main roads while secondary roads became the responsibility of local improvement districts. These districts were often small and poorly funded. Many of these districts allowed local farmers to work on roads in lieu of paying taxes, which meant that little was done in spring and fall when it was most needed.

Such was the environment the automobile entered when it suddenly became a viable means of transportation. The train was still the principal means of transportation and distribution. There were few roads, even fewer good roads and the population of the west was too low to support accelerated road development. This, however, did not stop a growing number of enthusiasts from pursuing their interests in better roads.

KEEPING THE CAR OUT OF THE NATIONAL PARKS

THOUGH SOME DISPUTE the claim because the vehicle used the train track and not a road, the first automobile is said to have arrived in the Rockies in the summer of 1904. Its arrival in Banff was not met with enthusiasm. Even the least environmentally-conscious local residents expressed fears of the impact of the automobile on game animals and on the wagon roads that had been developed around the town. These arguments were, of course, simply convenient excuses for resisting new technology. Under pressure from local liverymen, outfitters, hoteliers and the railway, the government passed an order-in-council in 1905 prohibiting the use of automobiles of any kind in the park.

The banning of automobiles from national parks, however, did nothing to stop their westward advance. In 1907, construction began on the Banff Coach road from Calgary and, when it was finished in 1909, the first cars started to arrive in numbers in Banff. On August 14, 1909, Norman Lougheed, uncle of a later premier, and a party of young friends made the first run over the route in a big touring car belonging to his father. Lougheed and his pals made the trip in just nine hours, with only one flat tire. No mention was made of whether they broke any laws in entering Banff.

In the face of the growing popularity and efficiency of the automobile, Ottawa brooded and then, two years later, ruled in favour of the

car. In the summer of 1913, locals were disturbed by the news that the government had suddenly permitted automobiles to travel on all of the town's streets and to the Banff Springs Hotel. In 1914 automobiles were allowed to travel anywhere in the park, except to the Upper Hot Springs and on Tunnel Mountain.

THE FIRST AUTO CLUBS

TO DRIVE A CAR IN THE early years, you needed to have a great deal of money, be mechanically inclined and enthusiastic and adaptable enough in your interests to put up with the “new-fangled contraptions” that passed as early cars. Since mud holes, breakdowns and flat tires were common, you also needed the help of like-minded others to keep from being stranded. Driving meant that you belonged to a fraternity that shared the spirit of a new age. Motor enthusiasts gathered into groups for sport and then kept together to apply political pressure for new roads.

Early auto clubs were informally organized and seldom lasted more than a summer. The reason for this was that “automobiling” was a seasonal activity not unlike “snowmobiling” is today. Nor should it be perceived that everyone was in love with the car. Despite the boosters who owned a growing number of dealerships and car enthusiasts who often joined auto clubs, there were many Westerners who resisted this new technology. Some of the resistance came from institutionalized interests such as the railway and horse-based businesses. There was also resistance from those who thought automobile ownership was simply an amusement of the moneyed classes. There were others, however, who had begun to envision the impact the automobile might have on their lives. Some did not like what they saw.

The pushy way in which the Calgary Automobile Club had invaded places like Banff did not win a lot of friends. Many felt that the impacts of this new technology ought to have been examined more fully before motorists were offered *carte blanche* access to all the special places that were formerly the exclusive domain of hikers and horsemen.

The car also began to threaten the way of life in one of the province's founding cultures. In March of 1912, a car full of Calgary automobile lovers, out for a night spin across the foothills, was attacked by a pack of what historian Tony Cashman described as “hootin' shootin' cowboys.” The cowpokes apparently appeared suddenly out of the darkness with guns blasting. They shot a hole through the roof of the iron invader, and

then raced their horses away over the foothills on which horses had once been supreme.

Despite antipathy toward the automobile among circles of people who couldn't afford them or who had affection for horses, there was no denying that those who owned cars were enjoying them. There was something about the noise and power and speed of the car that was instantly intoxicating. It was fun to ride in one and a thrill to drive – provided, of course, there was a road to drive on. Alberta automotive interests persisted and it soon became clear they wouldn't be satisfied with a road that ended in Banff. What they really wanted was a road that went to Radium and then south into the United States.

The first challenge to ensuring proper road development in Canada was jurisdictional. As is often the case in Canada, there was a lively argument over whether road construction and maintenance were provincial or federal responsibility. Influential politicians, including William Lyon Mackenzie King, held that road construction was a provincial matter. There were many who held that promoting the interest of the car-owner was one thing, and that promoting good roads was another and somewhat larger but separate matter. It became obvious that interests had to unite in order to resolve these issues.

Despite the outbreak of the World War I, in 1916 another four thousand cars hit the road in Alberta. A few trucks also appeared. The coal mines of the Drumheller valley were booming with war orders. It was said of Drumheller that the mines there depended on the Three Ms: men, mules and Model Ts. The tribute to the Model T was an appreciation of its ability to “skitter” up the steep mine roads even in wet weather. The car was beginning to prove itself as a practical, working technology.

By 1919, there were thirty-four thousand motor vehicles in Alberta. That same year, the federal government passed the Canada Highways Act, which made \$20 million available to the provinces for cost-shared road building projects. Auto clubs across the country and the Canadian Automobile Association supported the idea of main highways. A concept known as the King's International Highway proposed that a road from Montreal to Vancouver be identified and improved. This route was to be known as the King's Canadian Highway as soon as the governments of Ontario and British Columbia were able to build enough roads north of the border to contain the highway within Canadian boundaries. In 1920, the Vancouver Auto Club sponsored a trip by its president, Percy Gomery, to demonstrate that it was possible to drive



HIGHWAY 93 TODAY

Today the Banff-Radium road is a modern highway along which today's travellers can move at a speed incomprehensible to early motorists. While the highway offers convenience and quick access from Calgary and Banff to the Columbia Valley, motorists do not always appreciate they are in a national park, which results in high wildlife mortality and diminished appreciation of a globally significant resource.

Photograph by R.W. Sandford.

by the Banff-Windermere Highway through Kootenay National Park, the park the federal government got not for a song, but for a road.

THE BANFF-WINDERMERE HIGHWAY

UNTIL THE END OF World War I, almost all traffic in the Columbia River Valley followed the Canadian Pacific Railway line connecting Golden to the Crowsnest by way of the Columbia River Trench. Well before the war, local Columbia Valley businessmen had already begun to press for direct highway connections to the trade centres of Banff and Calgary. The idea was also put forward that a highway that went directly north from Radium would open up a burgeoning automobile tourism market in the United States. The attraction for Canadians driving south and Americans driving north would of course be Radium Hot Springs. Construction started on the road in 1911, but was stalled by the war and provincial funding limitations. Post-war federal support for highway development, however, reignited enthusiasm for the road. In exchange for federal support for the road, the province of British Columbia gave up five miles (about eight kilometres) of mountain landscapes on either side of the right-of-way to federal government in support of the creation of a national park. In retrospect this was a good deal for everyone. The mountain West got its first highway across the Rocky Mountains and in 1920 the people of Canada got a stunningly beautiful national park that provided a crucial ecological link between Yoho and Mount Assiniboine Provincial Park. This link was not created, however, without costs.

a car from Montreal to Vancouver in thirty days, averaging nine hours a day at the wheel. The King's International Highway concept would eventually become our first truly national road, the Trans-Canada Highway. But long before the Trans-Canada, the Rockies were first traversed



RADIUM HOT SPRINGS

In the late nineteenth century, when hot baths were still considered by many to be a luxury, hot springs were natural bath houses where you didn't need to heat your own water. They were also held to be of great therapeutic value, especially for those with arthritic and related complaints. Because of its stunning setting and wonderfully warm waters, Radium Hot Springs remains one of the most popular attractions in the Canadian Rocky Mountain Parks World Heritage Site.

Photograph by R.W. Sandford.

THE AUTOMOBILE TODAY

THE AUTOMOBILE CAUSED and continues to cause a lot of problems, especially in and around our national parks. With the advent of the automobile, people began for the first time to feel safe, comfortable and superior around bears. This made people bold. They also carried food, which in turn made bears bold. This mutual boldness led to some ridiculous and dangerous

situations. With the creation of what is affectionately known today as the “bear jam,” locals and visitors alike competed with each other to publicly demonstrate how thoughtless they could be around wild animals. The consequences were manifold and continue to plague us decades later.

The automobile is by far the most dangerous thing that exists in our mountain national parks. Its toll on wildlife is astounding. Speed and comfort are often the enemy of experience and respect for place. Yet what we saved still has the potential to inspire a different way of thinking about the highway route to Radium.

Kootenay National Park is every bit as amazing and possesses as many remarkable features as other mountain national parks. Kootenay is the only national park in this country in which one can find both cactus and glaciers.³ But you have to work to see extraordinary features like Helmet Falls, Floe Lake and the Great Rockwall because they are only accessible by trail. Though you can drive to popular Radium Hot Springs, you have to walk uphill to Tumbling Glacier and Kindersley Pass. It is a long haul up the Kaufmann Creek Valley to Fay Hut. Only a committed few experience these marvels. Most will be satisfied with a drive through Kootenay National Park on Highway 93, which is beautiful enough to make it a contender as one of the most spectacular drives in the world. It is a drive that parallels some of most important water-courses in British Columbia before converging upon the Great River of the West.

FEELING THE TUG OF THE GREAT RIVER

I HAVE ALWAYS HAD the same feeling crossing Vermilion Pass in Kootenay National Park as I have when crossing Kicking Horse Pass into Yoho, but once again it took decades before I understood why the sense of destination was the same even though the passes feel so very different. The similarity between the two passes resides in the fact that both lead essentially to the same extraordinary geophysical feature. Though it is so immense and manifests itself in many different ways in response to altitude and latitude, it is the feature that essentially defines sense of place between the continental divide of the Rocky Mountains and the Coast Ranges in this part of the North American West. That feature, of course, is the Columbia River.

The difference in “feel” between the two main passes through the Rockies in Canada resides less in their topography and history than in the fact that each accesses the Columbia Basin at a different point along the course of the great river. These points are different enough in character that it takes a number of visits or even an extended stay in the basin itself to discover that both of these mountain regions are in fact but different expressions of the same great watershed.

As the route parallels one of the Columbia’s greatest tributaries, the Kootenay, before dropping like a stone into the Columbia River Valley, the road to Radium provides the traveller with a particularly engaging sense that there is something monumental just beyond, the scale of the landscape that one can’t quite grasp. It happens often that visitors pass over the divide and right through the entire basin fully cognizant that there is something utterly stupendous they are feeling but unable to ground their awe in any one feature that would permit them to articulate the overwhelming nature of place in any satisfactory way. Not only is the scale of the Columbia Basin simply too large to grasp as a feature in itself, the great river expresses itself in far too many ways – from the bold exclamation of water and ice-carved mountain peaks, immense forests and the course of the great river itself, to the subtle nuances of the unique species of wildflowers that grow right up to the edge of the road.

While the great basin continues to repeat its story over the ages, we are able to catch only a few phrases in that telling. We can tell from what we see through the windshield that it is an epic tale, as old perhaps as the earth itself, and we’d love to hear more but we just don’t have time. As a result we aren’t able to connect the part of the story we hear when

we cross Vermilion Pass with the part of the story we hear when we reach the Columbia Valley. The story of the Columbia River below Vermilion Pass is one of origins, of the birth of the great river's tributaries; it is the story of the lake at its headwaters, of two hundred kilometres of wetlands, and of the tales water tells in the making of river.

But there is another reason travellers have difficulty comprehending the Columbia River story. The parts of the epic explained by the upper reaches that contribute to the great river have been told in the same way and in the same language for ten thousand years. That language is stone, receding ice and running water. But now we speak a new dialect composed of a whole new vocabulary of roads and rails, ranches and farms, mines, mills and towns. We have almost forgotten our mother tongue. Fortunately, the words that came into existence at the beginning of the world are still spoken in Kootenay National Park. The language of water is one of the things we saved.

THE ROAD TO RADIUM

THOUGH OUR PROTECTED area networks are not presently taking full advantage of growing national interest in water resources, there is no reason why that could not change very quickly in service of the common good. The headwaters that is the Rocky Mountains is a vast and relatively wild domain in which only a single agency has jurisdiction over both land use and watershed management. Imagine that: one agency responsible for both water resources and land use. It is a model situation, really. This is what the rest of the world is trying to work back toward.

It has been widely identified that in the face of a growing global water crisis, what we need in this country is a new water ethic that harmonizes federal and provincial water resource management aspirations under a multi-disciplinary scientific umbrella. Under the aegis of such an ethic, we need to ensure formal representation for the environment itself and ways to advocate for nature's own need for water. This will perpetuate bio-diversity and ecosystem productivity, which are central to long-term perpetuation of favourable hydrological circumstances in the Canadian West. Some think that such an ethic could direct us toward everything else we need to do, including addressing climate change and achieving sustainability.

Such an ethic can be born here in the western mountain parks. To create this ethic, however, there are things we need to know that only



THE VERENDRYE FIRE OF 2003

A series of lightning strikes in Kootenay National Park in 2003 started a huge fire in very dry conditions, which burned a significant area of the Vermilion and Kootenay River Valleys. The fire came very close to burning down historic Kootenay Park Lodge.

Photograph by Gord Irwin.

science can tell us. We know the hydrology of the mountain West is on the move, and that long before global warming takes out our glaciers it will play havoc with snow pack and snow cover and in so doing profoundly change the amount and timing of water availability. From this we recognize an obvious and immediate need for additional monitoring and interpretation of expanded hydro-meteorological data, for enhanced understanding of present and future surface and groundwater flow regimes, and support for aquatic ecosystem research, especially at higher altitudes. We need to further develop techniques that will allow us to more effectively predict and act upon landscape and climate change effects on mountain ecosystems and western water availability. Two avenues are worthy of exploration in this domain.

Firstly it is important to acknowledge the role of upland lakes, wetlands, forests and rivers in capturing and slowly releasing water, as a foundation of downstream water supply security and human settlement stability. It is important to remember, however, that natural and aquatic ecosystems do not exist just to supply and purify water for human use. Natural systems perform many other functions, and when

natural ecosystems are diminished or disappear these functions have to be reproduced or enhanced elsewhere if our planetary life-support system is to continue functioning in the manner on which we have come to rely. If eco-hydrological research tells us anything it is that that is clearly not happening, which makes what we do in upland protected areas even more important.

Secondly, we must never forget also that water is married to its diametric and symbolic opposite, fire. The story of fire is well told on the road to Radium. Fire doesn't just affect forests, it also affects how much water forests can hold and release over time. Water is one of the most important and least appreciated forest products.

We need to know much more about the relationship between insect pests, fire and water, especially in our mountain park headwaters. These are exactly the things we are studying in Kootenay. In this resides huge opportunity. If the national park model of integrated watershed management could be perfected and then expanded outward from our protected headwaters, and applied downstream, the West of the future would be a very different place. Not only would we be able to assure a more reliable water supply and temper the impacts of climate change, the national park integrated watershed management example could become a foundation for a truly sustainable Western Canadian society.

A second great public policy achievement in the West could be built upon the first. We have created the Canadian Rocky Mountain Parks World Heritage Site, now let's use it to demonstrate to the world how we can follow the water in our rivers and lakes back to the headwaters of our history.

From there we can identify that point in time where we made a wrong turn, in terms of taking the importance of our water resources for granted. From there we can correct that mistake and start again downstream from these mountains toward sustainability. Through persistent and thoughtful interpretation and communication there is no reason such a process could not begin on the road to Radium.