

**WILDERNESS AND WATERPOWER:
HOW BANFF NATIONAL PARK BECAME
A HYDROELECTRIC STORAGE RESERVOIR**
Christopher Armstrong and H. V. Nelles

ISBN 978-1-55238-635-4

THIS BOOK IS AN OPEN ACCESS E-BOOK. It is an electronic version of a book that can be purchased in physical form through any bookseller or on-line retailer, or from our distributors. Please support this open access publication by requesting that your university purchase a print copy of this book, or by purchasing a copy yourself. If you have any questions, please contact us at ucpress@ucalgary.ca

Cover Art: The artwork on the cover of this book is not open access and falls under traditional copyright provisions; it cannot be reproduced in any way without written permission of the artists and their agents. The cover can be displayed as a complete cover image for the purposes of publicizing this work, but the artwork cannot be extracted from the context of the cover of this specific work without breaching the artist's copyright.

COPYRIGHT NOTICE: This open-access work is published under a Creative Commons licence. This means that you are free to copy, distribute, display or perform the work as long as you clearly attribute the work to its authors and publisher, that you do not use this work for any commercial gain in any form, and that you in no way alter, transform, or build on the work outside of its use in normal academic scholarship without our express permission. If you want to reuse or distribute the work, you must inform its new audience of the licence terms of this work. For more information, see details of the Creative Commons licence at: <http://creativecommons.org/licenses/by-nc-nd/3.0/>

UNDER THE CREATIVE COMMONS LICENCE YOU MAY:

- read and store this document free of charge;
- distribute it for personal use free of charge;
- print sections of the work for personal use;
- read or perform parts of the work in a context where no financial transactions take place.

UNDER THE CREATIVE COMMONS LICENCE YOU MAY NOT:

- gain financially from the work in any way;
- sell the work or seek monies in relation to the distribution of the work;
- use the work in any commercial activity of any kind;
- profit a third party indirectly via use or distribution of the work;
- distribute in or through a commercial body (with the exception of academic usage within educational institutions such as schools and universities);
- reproduce, distribute, or store the cover image outside of its function as a cover of this work;
- alter or build on the work outside of normal academic scholarship.

Minnewanka Redux

History takes unexpected turns. It never seems to proceed in linear fashion. With the transfer of natural resources to the Province of Alberta and the carving of the Spray Lakes out of Banff National Park in 1930, one might reasonably expect that having been long postponed, the much-needed hydroelectric project would immediately go forward. Not so. The fateful date hints at only part of the story.

While Albertans had waited during most of the 1920s for politicians in Ottawa to make up their minds about the Spray Lakes, Ottawa had waited for the political leaders of Alberta to decide whether or not the province would go into the electricity business. The decision to develop the waterpower of the Spray Lakes now lay entirely in the hands of the Alberta government. Would it finally seize this opportunity to create its own public utility to serve the entire province? Or would the task be left to the Calgary Power Company?

Ironically, however, by the time the battle to open up the Spray Lakes to hydroelectric utilization had been won, the Calgary Power Company had lost interest in the undertaking. Even before the new National Parks Act had become law, the company had revived a familiar theme: the need to raise the dam at Lake Minnewanka higher so as to store more water. That proposal, of course, was even more of an anathema to the Parks Branch and their allies in the wilderness preservation movement than the plans for the Spray Lakes because it involved extensive construction within the now “sacrosanct” park itself. The election of a Conservative government, headed by R. B. Bennett, in 1930 led many to anticipate that the company’s

request would be speedily granted, and Calgary Power certainly lobbied strenuously. Old combatants regarded for a fight, but once again, fickle fate intervened.

From 1922 on, politicians, bureaucrats, and private interests alike had assumed that if the generating capacity of the hydroelectric plants on the Bow River were to be expanded, the best means would be to dam the Spray Lakes. The first doubts were cast upon that assumption during discussions in Ottawa about the removal of the lakes from the national park. A question arose as to how much water would continue to flow down the Spray River and into the Bow just outside the Banff townsite once the dam had been erected at the outflow of the Spray Lakes. This was an important question, because the Spray ran through the golf course that the CPR had constructed just below the Banff Springs Hotel. As one CPR official later wrote to the minister of the interior, "The company has spent many millions of dollars in our hotel, and your department has gone to great lengths to retain the natural beauty features in the district."¹ Neither the hotelmen nor the Parks Branch bureaucrats would countenance the flow of the Spray being cut off altogether, leaving an almost dry riverbed for the tourists and golfers to look at.

At a meeting in Charles Stewart's office in April 1928, the minister informed Calgary Power officials that if they were permitted to dam the Spray Lakes, they would have to release five hundred cubic feet of water per second (cfs) into the river to maintain a flow roughly equal to normal September levels.² Managing director G. A. Gaherty replied that to release that amount of water was "utterly out of the question," since it would use up so much water that it would render the storage capacity of the reservoir uneconomical for power purposes. Apparently Gaherty, who had originally devised the Spray Lakes plan, had simply assumed that the company would be permitted to cut off the Spray River altogether and pass all the water in its reservoir through a tunnel into the Bow valley far downstream at Canmore. His solicitor observed that if so much water had to be released, Calgary Power would have no interest in the development. To the annoyance of Parks Commissioner J. B. Harkin, one of the engineers from

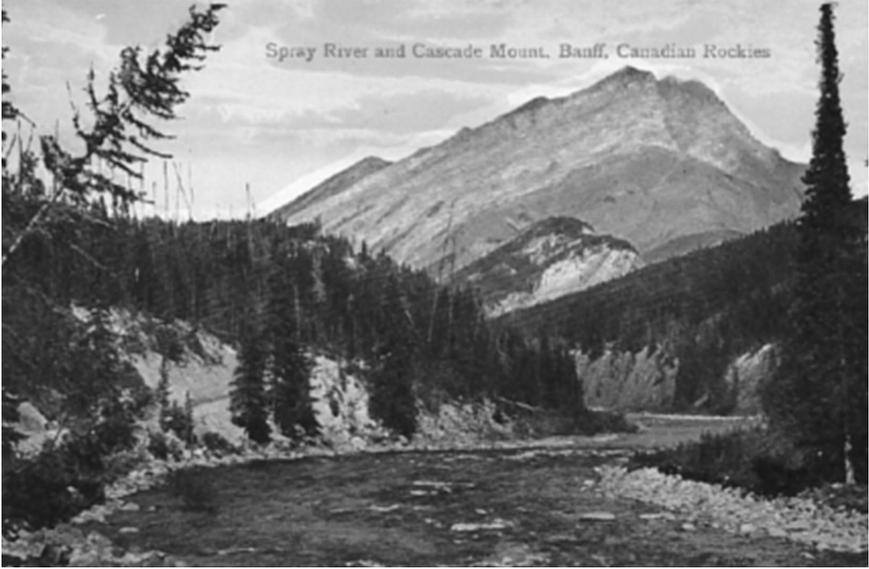
the Water Power Branch concurred, arguing “that the project could not afford to have any water released from storage for scenic purposes.”³

Wrangling continued over this issue for some weeks. The mayor of Calgary, donning the mantle of hydrographic engineer, gave his opinion that between 150 and 200 cfs flowing down the Spray River in the summer would be quite sufficient to preserve its natural beauty. The Parks Branch pointed out that a flow of 500 cfs would require just 6.7 per cent of all the water to be stored in the proposed Spray Lakes reservoir. If the project was being planned with such a slender margin of error, then it ought not to be approved. The minister was evidently prepared to accept a flow as low as 350 cfs in the Spray River, but the company would agree to release no more than 200 cfs.⁴

Negotiations between the province and the federal government over the removal of the Spray Lakes from Rocky Mountains National Park continued during the next two years until Stewart’s bill was finally passed in the spring of 1930. Ironically, however, Calgary Power seems to have been sincere in its refusal to even consider damming the Spray Lakes if it was required to release as much as 500 cfs over the dam. The knowledge that the CPR was on the side of the Parks Branch in this battle must have had its effects, too. The railway company was a much tougher and more potent antagonist than the mountain climbers and bird watchers in the Canadian National Parks Association.

Moreover, Calgary Power had an alternative plan to meet its immediate future requirements. Outside the eastern boundary of Rocky Mountains National Park, the Ghost River flowed into the Bow River from the northwest near Radnor, Alberta, just downstream from the company’s existing plant at Horseshoe Falls. Calgary Power had acquired rights to this Radnor site at its founding in the deal with Alberta Portland Cement. Now, some twenty years later, company engineers calculated that a development at Ghost Falls could turn out 36,000 hp annually with the possibility of expansion to 54,000 hp if required.

A new source of power was urgently needed by Calgary Power since the contract with the city was due to expire in the spring of 1928 and demand for electricity was rising rapidly. Premier Brownlee was prepared



POSTCARD IMAGE OF THE SPRAY RIVER RUNNING THROUGH THE BANFF GOLF COURSE.

to give his support to the Ghost development. At that very meeting in Charles Stewart's office in April 1928 where the Spray project was discussed, Gaherty asked for the necessary federal licences to develop the Ghost site. Stewart quickly agreed, and within a few weeks, the city and the company had reached an agreement extending to 1940: the company would proceed with the new hydroelectric project and the municipal steam plant would be leased to the company for \$75,000 per year to meet winter peak loads.⁵

The extension of its contract with the city greatly strengthened the financial position of Calgary Power and ensured that it would be able to raise the money required to construct its new plant. The board of directors had voted for the first regular dividend ever paid by the company in the last quarter of 1927, and thereafter, the shareholders received a regular 5 per cent per annum. In the fall of 1928, the holders of the twenty thousand shares of common stock were also given the right to subscribe at \$100 each for five thousand shares from the treasury in the ratio of one new share



GHOST RIVER DAM NEARING COMPLETION (GLENBOW ARCHIVES, NA-4477-12).

for every four held. In order to raise the \$7 million required to build the Ghost plant, the shareholders approved the issue of fifty thousand new \$100 preference shares and twenty thousand additional common shares. G. A. Gaherty now replaced I. W. Killam as president of the company, although Killam's Royal Securities Corporation remained in firm control through the ownership of most of the common shares.⁶

Even though the Calgary Power Company had lost interest in the Spray project for the time being, Stewart remained under pressure from Albertans to act. In the summer of 1928, the mayor of Calgary complained to him that the Ghost plant would only be sufficient to meet projected needs for about five more years, after which more cheap hydroelectricity would be needed to promote industrial development. The Calgary Board of Trade echoed these sentiments:

Unless arrangements are made for the development of electrical energy sufficient to take care of the future needs of this city and

province, we shall be badly handicapped and our progress and prosperity severely retarded.

We deeply resent the propaganda which is seeking to make it appear that the use of the Spray Lakes will destroy the beauty or use of the park as a playground or tourist centre when as a matter of fact it would improve it.⁷

By the summer of 1928, Premier John Brownlee was equally eager that the interior department should grant the development rights at the Spray Lakes to his government immediately, even before a new National Parks Act was passed. The reason for Brownlee's impatience lay in a shift in Alberta politics. Prior to 1928, the issue of hydroelectric development had been an issue of little concern except in Calgary. Edmonton was already served by its own city-owned thermal station, and the effort in 1925 to interest other municipalities in financing a provincial grid based on Bow valley power had elicited no enthusiasm. Now, however, the issue of rural electrification was taken up by the grassroots members of the United Farmers of Alberta (UFA), and the Brownlee government was suddenly forced to pay attention to the idea. In January 1928, the UFA convention passed a resolution favouring the immediate development of the Spray Lakes under joint federal-provincial control.⁸ Articles and editorials on the benefits of electrification began to appear regularly in *The U.F.A.*, calling for the establishment of a provincial electrical utility modelled on Ontario Hydro. For instance, the pseudonymous Lee Vincent warned against handing over precious resources to private companies:

We have seen our farm cooperatives wrest control of our marketing system from the domination of powerful and strongly entrenched private interests. We have secured ourselves against the inroads of a telephone monopoly; why should we rest on our oars and let power trusts lead us into voluntary captivity? In a dozen years electricity will be a dominating factor in the life of our Province. If we wait until then to assert our rights it will probably be too late or too expensive to accomplish what may readily be done now.⁹

The Brownlee government could not afford to ignore this shift in opinion among its rural constituents. R. P. Baxter, the deputy minister in charge of Alberta Government Telephones, was consulted about the cost of setting up a provincial electrical utility. The costs would be substantial, he reported: about \$5 million would be needed to buy out Calgary Power and another \$4.5 million to build the storage works at the Spray Lakes needed to provide enough capacity to serve a provincial grid. "It appears from the information that we have now that the Government could not sell power any cheaper than the present rates, at least, for the first six or seven years." Despite this, Baxter pointed out the virtues of nationalization:

We are interested because of the fact that the power business in this province links up very closely with the telephone business. We have an organization over the province built up and now giving telephone service; much of this organization could be used in the power business. The same commercial office in every exchange could serve for the two lines of business. Our construction organization could easily be extended to take in all of the work in connection with power lines throughout the country. Our accounting organization could very easily be made to take care of the accounting work.

What was needed at once was further investigation: "If you wait for ten years, regardless of the contract that you make with the power company, there is [*sic*] going to be all kinds of complications as well as duplication."

Baxter was soon sent east to carry out a discreet investigation of public electrical systems in Manitoba and Ontario.¹⁰ On his return, he reported that he had met with I. W. Killam and G. A. Gaherty to sound them out about the possibility of a takeover of Calgary Power as a first step. Killam insisted that the company had no wish to sell out, having recently been offered \$300 per share, although he claimed that the difficulties in securing adequate water storage from the federal government had so far made it impossible to earn a fair return on its investment. In light of this, Killam argued that Calgary Power had "a strong moral claim to the support and

sympathy of the province in carrying on the undertaking throughout the whole province.” Nevertheless, he promised that if the provincial government was determined to nationalize the company, the board would be prepared to sell at a price to be fixed by arbitration, though he made clear his strong opposition to public ownership.¹¹

Despite the predictable coolness on the part of the private company,¹² the UFA government became increasingly attracted to the idea of a provincial electrical utility. In the summer of 1929, Brownlee approached the chair of the Ontario Hydro-Electric Power Commission to ask for assistance.¹³ Eventually, A. G. Christie, a Canadian professor of engineering at the Johns Hopkins University, was commissioned by the Alberta government to study the situation. Christie’s report, delivered a few months later, carefully set forth the pros and cons of private versus public enterprise. Christie estimated that the cost of acquiring the two private utilities (Calgary Power and Midwest Utilities, which had recently established itself in the southeastern part of the province) plus the civic steam plant in Edmonton would total about \$18 million and that another \$7 million would be required to construct new transmission lines to connect them. He admitted that “there can be no hope of immediate reductions in power costs through government control, and that the benefits of such a situation will only accrue after several years and when the system has been extended and enlarged.” Nevertheless, he predicted that if the two companies were not purchased, they would soon merge, and that their rates would likely rise in future. While leaving the choice up to the government, Christie clearly favoured nationalization.

Ontario consulting engineer H. G. Acres, who had been retained by the City of Calgary, heartily endorsed Christie’s conclusions and advised one of Brownlee’s ministers that

... it was simply a question of whether or not we had a vision of growth and development in the province or not. If we were convinced that development was going to take place, and from everything he could see that growth was going to take place, then in his opinion there would be no question that we should take

hold of it. He said apart from that one consideration, it was simply a matter of courage.¹⁴

Certainly, the idea of a public power system was attractive to many within the UFA,¹⁵ but the fact remained that with its federal charter, Calgary Power was immune from expropriation by the Alberta government.¹⁶ The company would have to be bought out, and that meant paying a hefty premium to I. W. Killam. The provincial government hesitated, and once the depression struck, it rapidly lost interest in the idea of a provincial electricity distribution system.

Ironically, however, the economic crisis that began in 1929 increased rather than decreased the threat from hydroelectric development to the integrity of the national park system in Alberta. Calgary Power now had three hydroelectric stations on the Bow, all of them suffering from the same recurring problem: low winter streamflow and therefore reduced operating efficiency. Although the decision had been made to cut the Spray Lakes out of Banff National Park, Calgary Power, anticipating future load growth, now determined to overturn the decision made in 1922 to forbid the raising of the dam at Lake Minnewanka, since raising the dam would offer the chance to create a large block of power at a small capital cost: increased storage at Minnewanka would immediately return dividends three times over. Events soon played into the company's hands. With unemployment rising in Calgary, a group of concerned citizens gathered in December 1929 to consider remedies, and Calgary Power's general manager seized the opportunity to announce that the construction of a thirty-foot dam, sixteen hundred feet long, could provide four hundred jobs. Immediately, civic officials began to pressure the interior department to approve the project.¹⁷

This infuriated Parks Branch officials, who had anticipated that the new National Parks Act, which would come into force in a few months, had finally put a stop to such commercial developments. Commissioner J. B. Harkin complained, "Under the circumstances it seems extraordinary that the demand for Minnewanka should be so suddenly sprung. One cannot help feeling that the real purpose is to challenge the inviolability

of the National Parks.” The company’s aim, he wrote, was either to open the way for the use of Lake Louise or any other part of the national parks for hydraulic storage or to lock up all the power rights in the southern Rockies to exclude all competition and aid in the creation of “a huge power trust.” Killam and Gaherty were simply trying to use the unemployment situation in Calgary “to stampede the department into a sudden change of policy,” even though it was clear that four hundred men would not be required to clear the brush from the shoreline of Lake Minnewanka efficiently. “[S]omeone has conceived the idea that instead of having the Minnewanka case considered on its merits, a decision should be forced on emotional grounds based on unemployment,” Harkin concluded.¹⁸

Initially, the minister of the interior accepted this point of view. Charles Stewart reminded Calgarians that the power company could start work on the Spray project as soon as they got permission from the provincial government. But the Trades and Labour Council and the Central Council of Unemployed kept the pressure on the municipal politicians in an unusual alliance with the Board of Trade.¹⁹ All the familiar arguments for and against raising the level of Lake Minnewanka were trotted out once more. Commissioner Harkin spoke of the “ghastly damage” to the scenery created even by the existing dam, while the secretary of the Board of Trade pointed out that Loch Katrine in Scotland, “one of the most famous beauty spots in the world,” supplied Glasgow’s water, and the Swiss Alps were full of hydroelectric reservoirs.²⁰

Stewart remained unmoved: the redrawing of the park boundaries, which Parliament was about to approve, had settled the matter once and for all. He did, however, rein in the Parks Branch from publicly attacking the Minnewanka plan and creating public controversy. Behind the scenes, however, Harkin continued to fulminate against Calgary Power and its claim that it only sought more water from Lake Minnewanka to make its Bow River plants more efficient in winter. Nonsense, said the commissioner. “I submit this stand is taken solely as a first step, and that the only real purpose in mind is the establishment of a commercial generating plant in the Park. In plain English, they are not being frank.” Harkin believed that the company was trying to get permission to raise the Minnewanka

dam before the new National Parks Act became law, since it would require parliamentary approval of any future development. Once the new legislation came into force in May 1930, he felt relieved that there was “now no immediate danger” from the proposed scheme.²¹

His confidence was shaken within a couple of weeks, however, when, on the eve of a general election, Stewart announced that after consultations with local Liberals, he was now “prepared to recommend to the government that Lake Minnewanka be considered outside the boundaries of Banff National Park in order to permit development of this source of water power for storage purposes.” The Conservative victory in the election made Calgary R. B. Bennett prime minister, which the mayor and the local Board of Trade hoped would ensure speedy passage of a bill to permit raising the dam at Lake Minnewanka as an unemployment relief scheme. The Canadian National Parks Association, meanwhile, did its utmost to mobilize its members to resist “this contemplated grab of part of a park area which belongs equally to all Canadians.”²²

The Conservative election victory threw matters into flux. Within the Interior Department, the bureaucrats struggled to gain the confidence of their new Conservative masters and to demonstrate to the new interior minister, Thomas G. Murphy, how well organized the conservationist lobby was. Deputy Minister W. W. Cory suggested that the prime minister should make no commitments before carefully studying the issue. Sensing an opportunity unlikely to be repeated, Calgary Power also turned on the pressure to obtain parliamentary approval to use Lake Minnewanka as a power reservoir. The company now proposed to raise the dam by fifty-five feet and to increase the amount of water flowing into the lake by diverting the headwaters of the Ghost River into it. This water would be taken by a canal to the Bow River at Anthracite where 25,000 hp would be generated with a 310-foot head. The same flow could then be utilized at each of the other Calgary Power plants lower down on the Bow. The company even suggested that the federal government start the work itself as an unemployment relief project and turn it over to the company once the necessary enabling legislation had been passed.²³

Parks Commissioner Harkin sensed that the change of government had placed him in a weaker position. The prime minister was a former president of the power company and was known to be sympathetic to its plans. J. T. Johnston of the Water Power Branch of the Department of the Interior remained a strong proponent of the use of Lake Minnewanka as a reservoir; it was Johnston, in fact, who had conceived the scheme of diverting the Ghost River into the lake. Local organizations in Calgary – and, surprisingly, even in Banff – expressed embarrassingly strong support for the project. A plebiscite held in Banff, for example, indicated that local residents favoured not a thirty-foot but a fifty- to sixty-foot increase!²⁴ Harkin, therefore, consented to exploratory work being commenced. The only comfort he could draw was that the headwaters of the Ghost River had also been removed from the national park by the 1930 act, so even if the federal government approved the plan, Alberta's consent would also be required before any actual work could commence.²⁵

Despite the worsening economic depression, the Calgary Power Company kept the pressure on the government. Gaherty personally lobbied the new minister, T. G. Murphy, by calling him and submitting a report from T. H. Hogg of Ontario Hydro endorsing the project. While Hogg admitted that Lake Minnewanka might not refill completely during years of low precipitation, he argued that careful clearing of the shorelines, as was done in Switzerland, would ensure that the scenic effects remained undamaged. Johnston, the director of the Water Power Branch, continued to support the idea of a new development supplied with water from Lake Minnewanka: “The Cascade project possesses power potentialities in relation to the company's present power system which make it of outstanding value as a source of power supply, quite out of proportion to its value taken simply and solely as an independent power project.” The idea that the provincial government should be given control of all potential hydroelectric sites as the basis for a public power system was pooh-poohed by Johnston because it would fragment control over the park system.²⁶ Minister Murphy quickly referred the company's application to the prime minister, hoping for advice on how to deal with it. The matter had to be

handled carefully: any appearance of favouritism toward Calgary Power was certain to create an outcry against the government.

The Alberta legislature entered the fray by passing a Labour Party resolution on March 5, 1931, calling for the transfer of water power resources within the Alberta national parks to the provincial government. Development would then depend upon the approval of both levels of government. This resolution created legal complications for the federal government since it pitted the terms of the Dominion Water Powers Act against those of the National Parks Act.²⁷

But as the Depression worsened and the demand for power stopped growing, the need to resolve this conflict was soon rendered academic. The economic crisis of the 1930s blocked further development of water-power inside the national parks of Alberta more effectively than all the lobbying of the 1920s had done. Although the Spray Lakes had been cut out of the park so that development could proceed, the project was too big and too costly for Calgary Power to undertake in 1930 after having invested heavily in the Ghost/Radnor project. Instead, the company once more trained its guns on Lake Minnewanka and seemed on the verge of success. But a collapse in the demand for power and the crisis in the financial markets rendered any expansion of generating capacity uneconomical for the time being. Besides, with the Ghost hydroelectric plant coming on stream, Calgary Power, now experiencing surplus capacity, simply allowed its renewed application to control Lake Minnewanka to lapse. Lake Minnewanka and the parks lobby could rest for the remainder of the decade.

