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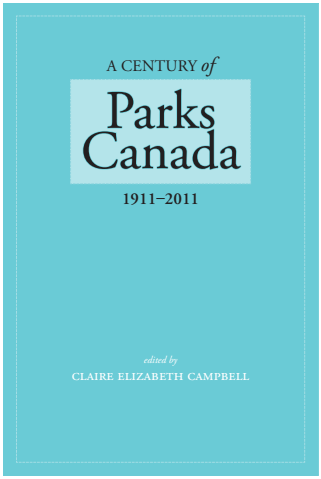

A CENTURY OF PARKS CANADA 1911-2011

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Archaeology in the Rocky Mountain National Parks: Uncovering an 11,000-Year-Long Story

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Today there is a strong program of archaeological research in the Rocky Mountain national parks, as indeed there is throughout Parks Canada. But only forty years ago, it was still possible to find serious publications that claimed the mountains were too difficult a place for people to have lived and so there would be no archaeology to be done. Even though the first formally protected archaeological site in Canada was set aside in Banff on the eve of the First World War, no serious archaeological research happened in the mountain parks for the next fifty years, until Brian Reeves of the University of Calgary showed effectively that archaeological sites were present throughout the backcountry as well as in the major montane valleys, and that mountain passes had long been major travel corridors.

This paper is not going to present the results of archaeological research or the details of the eleven thousand years of culture history that has been reconstructed for the Rocky Mountains.[2] Rather, it will consider the history of

archaeological research in the mountain parks and its place within Parks Canada. Initially an academic but amateur pursuit, the field of cultural resource management (CRM) archaeology grew rapidly in Canada in the 1970s in response to the passage of new heritage legislation in all the provinces. Archaeology in the national parks grew in a similar manner. In the 1970s, Parks Canada archaeologists from Ottawa were carrying out excavations at major historic sites in the west, such as Rocky Mountain House National Historic Site. By the early 1980s, the regional offices in Calgary and Winnipeg also had permanent archaeology staff, and a program of inventory and research in the national parks had begun in earnest. In Banff, this was linked to such major development projects as the twinning of the Trans-Canada Highway, which affected a series of deeply stratified, highly significant precontact campsites. Their excavation produced the first culture history sequence for Banff. In all the parks, archaeologists worked to provide a basic inventory and analysis of archaeological and historic resources for the park resource descriptions, as a complement to the park-wide natural resource inventories that were being completed.

Today, there are some two thousand sites known in the mountain park block, and Parks Canada archaeologists carry out a wide variety of research, mitigation, and interpretation projects. This work has established a basic inventory and culture history sequence for the mountain parks, and the spatial patterning of sites is integrated with the GIS natural resource databases for each park. CRM is a strong part of the work being done to protect and present the natural and cultural resources of the parks, and archaeological data is being used to address paleoecological questions: How have people used plant and animal resources in the past, and how has this changed over time? How have people had an impact on the distribution of plants and animals over time? How can this information help parks managers? If one research stream in archaeology as a discipline has been anthropological, another equally strong research focus has always sought to place people in a landscape, and look at the patterns people have made on the land through going about their daily lives. We are beginning to understand that human actions and resource use over the millennia have played a large role in shaping the park ecosystems that we are trying to restore and preserve today. Through archaeological and ecological research, it is becoming clear that people have always been present as an integral part of the landscape.

The First Prehistoric Remains to Be Preserved in Canada

Banff townsite has been a focus of occupation for a very long time, and a place of contact where people from the British Columbia Interior Plateau have met people from the plains. But we didn't know this at first. When Rocky Mountains Park was established in 1885 around the Cave and Basin hot springs, and as Banff townsite developed to provide services for the miners, loggers, and tourists, there was little knowledge of what had been there before. Some residents with an interest in Aboriginal history and knowledge collected their handicrafts and artefacts; these collections eventually became a part of the Whyte Museum of the Canadian Rockies and the Banff Park Museum. Norman Bethune Sanson, curator of the Banff Park Museum (built in 1903), collected a magpie variety of objects pertaining to natural history, including archaeological and anthropological items. In 1913, Harlan I. Smith was asked to write a handbook for the Rocky Mountain Parks Museum.[3] Smith was the first full-time archaeologist in the federal civil service, hired in 1911 by the Geological Survey of Canada to work at the new Victoria Memorial Museum in Ottawa.[4] The wide variety of objects that he describes in the handbook can still be seen very much as they were then, displayed in all their profusion in splendid Edwardian cases, because the Banff Park Museum National Historic Site has been preserved as a museum of museums.[5]

In his handbook, under "Antiquities," Smith also described an archaeological housepit village site that he had recorded earlier near the Banff Springs golf course: the first formal archaeological work in Alberta. Based on his earlier anthropological research in the British Columbia Interior as a member of the Jesup North Pacific Expedition, Smith immediately recognized these circular depressions as the archaeological traces of Shuswap semi-subterranean winter pithouses. Even before going to Banff, Smith wrote to James B. Harkin, the Commissioner of the new Dominion Parks Branch, to request the preservation of the site. Harkin took a strong interest, and wrote to Superintendent Clarke of Rocky Mountains Park on 27 May 1913, instructing him to set aside the housepit site and erect a protective sign reading "Indian Circular House Pits. They mark the easterly limit of such pits. Penalty for damaging them – $100.00" – a serious penalty in 1913 dollars.

Fig. 1. Looking towards Mount Rundle, across grounds and road way, to the semi-subterranean house sites near Banff. [© Canadian Museum of Civilization, Harlan I. Smith, 1913, no. 25654.]

Fig. 2. Semi-subterranean house sites between Mount Rundle and Bow River near the Golf Grounds, Banff. [© Canadian Museum of Civilization, Harlan I. Smith, 1913, no. 24014.]

Smith, Harkin, and park staff worked over the next year and a half[6] to restore the pits to their original condition and to withdraw the lots from townsite development. As Smith reminded Harkin on 28 May 1914, "I believe these are the first prehistoric remains to be preserved in Canada, and I am anxious that they should be both protected and kept as near as possible in their original condition." Unfortunately, this protection only lasted until 1928, when an expansion of the Banff Springs golf course destroyed the remaining pits.

Smith's work at the housepits demonstrates the value that the new national parks system was willing to ascribe to archaeological remains. Although it was the first professional archaeological work in the mountain parks, recording the group of housepits was a minor incident as far as archaeological fieldwork goes; Smith did not even have the chance to excavate before the First World War intervened. However, an interest in the housepits is a thread that we can follow through the more recent research in Banff National Park. Today, we know of seven similar sites in the park, dating from the last three thousand years: the only such sites recorded in the Canadian Rockies, distinct from the usual range of precontact campsites, killsites, and quarry sites.[7] They speak to the Rocky Mountains as a crossroads of cultures from the British Columbia Plateau and the Plains, and to people arriving from the west and making a substantial investment of time and labour in excavating and building these structures with the intent of returning. In the late precontact period, Banff was already a village.

1955–64: Creating a Discipline

After the initial interest in the Banff housepits, there was virtually no formal archaeological work done in Alberta, through years of war and depression.[8] In 1955, however, the Glenbow Foundation of Calgary, started by oilman Eric L. Harvie, funded an archaeological survey for the province. Richard Forbis was hired in the first full-time professional position on the Canadian prairies and began a systematic program of excavations at key late prehistoric sites in southern Alberta.[9] Many of these sites are now commemorated as National Historic Sites, including Old Women's Buffalo Jump, Writing on Stone, the British Block cairn, Cluny Earthlodge, and Rocky Mountain

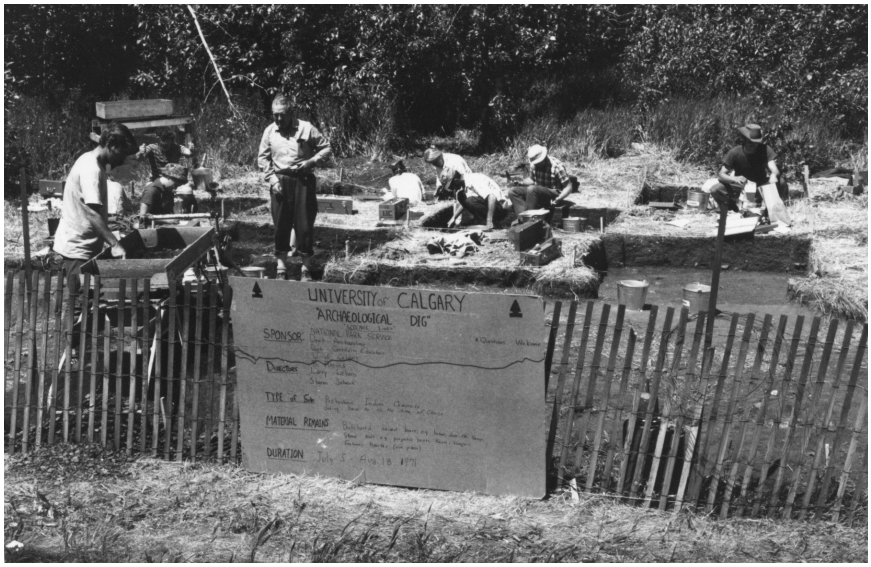

Fig. 3. University of Calgary archaeological field school at site DgPl-10 in Waterton, 1971. From B.O.K. Reeves, *DgPl-10, A Winter Base Campsite in Waterton Lakes National Park, 114* (Ottawa: Environment Canada, Canadian Parks Service, Microfiche Report Series 345, 1980). Parks Canada.

House. In 1965, Forbis and Marie Wormington wrote *An Introduction to the Archaeology of Alberta, Canada*, offering "a very tentative introduction … the presentation of a casual acquaintance whom one scarcely knows."[10] There is absolutely no mention of any mountain sites in this volume.

Although the Archaeological Society of Alberta was founded in 1960, reflecting a strong public and amateur interest, professional archaeology in Alberta was limited to the work of the Glenbow Foundation until 1963. That year, two archaeologists joined the Department of Sociology and Anthropology at the University of Alberta, and Forbis moved across town to found the Department of Archaeology at the University of Calgary.[11] This was the first Canadian university department devoted to archaeology, and it soon made the southern Rocky Mountains a focus for research. Brian Reeves, one of its first graduate students, stayed on to teach in the department, and became an influential figure in southern Alberta and mountain archaeology.

1964–78: Archaeological Research in the Mountains Begins

Reeves had grown up in Waterton Lakes National Park. He visited local archaeological sites with Waterton residents who had been collecting artefacts, and, in a series of contracts with the National Parks Branch from 1964 through 1970, systematically surveyed the entire park.[12] Because of his training in both geography and archaeology, Reeves was able to combine human history with environmental history and discuss the patterns of human use of Waterton as they changed through the post-Pleistocene era. This linking of human history and environment was of a piece with the ecological thinking of the time. In this work Reeves had the enthusiastic support of national park interpreters, themselves a new addition to the national parks (as Jim Taylor notes in his essay), such as Kurt Seel. The Parks Canada archaeological map collection at Calgary has a topographic map from the late 1960s on which Seel has drawn in all of the major archaeological sites in Waterton, annotating the relationships between the various campsites, bison kill sites, and drive lanes; it suggests an ecological thinking, interpreting human use as a web of life. Seel also maintained a collection of archaeological artefacts, catalogued in the same way as natural history specimens. In his mind at least, human sites and artefacts were very much a part of the same system and landscape as any other natural phenomenon and were to be understood and inventoried in the same way.

In the late 1960s, it was still possible to find statements about how little prehistoric peoples had used the impenetrable mountains.[13] In fact, the language of doubt and difficulty, of seeing the mountain passes as too arduous, and the resources as too scarce, was more the language of the European settlement experience. It was extremely difficult for the early fur traders and explorers to work their way through the Rockies, and for the Canadian Pacific Railway to build a practical route through the Kicking Horse Pass and Rogers Pass. It took some time before early ranchers and farmers in the foothills were able to work out a practical knowledge of the local conditions. The Aboriginal peoples, of course, had worked this out some time ago: Reeves' work in Waterton proved that humans had a long and continuous presence in the region. But outside of Waterton, Reeves told the 1968 Canadian

National Parks: Today and Tomorrow conference, the Rocky Mountain region was "largely unexplored," and "most people conceive of the parks as an uninhabited landscape, a 'living museum of nature' in which aboriginal man played little or no role."[14] He called for better interpretation of the long human involvement with the mountain landscape in the national parks. By reconstructing the palaeoenvironments, park visitors would regain a sense of the environment as a dynamic system and make an emotional connection to the people of the past. (This reads today as a very modern argument, as Parks Canada is being asked to foster meaningful visitor experiences and connections after a period of decreased emphasis on communications.)

The 1968 conference was a landmark event that galvanized efforts to manage natural resources in a more formalized, research-based program.[15] It is significant that an archaeological voice was included here, as it reinforced the role of archaeology as a discipline that places people in a landscape. While Reeves went on to survey the Crowsnest Pass,[16] his pioneering work sparked survey efforts in other mountain areas. By the early 1970s, surveys carried out under contract with the National Historic Sites Service provided a basic archaeological resource inventory of Banff, Yoho, and Jasper national parks and the Ya Ha Tinda Ranch. The work was done largely by Reeves' graduate students from the Department of Archaeology at the University of Calgary but also by students from the University of British Columbia. At this time there was no local archaeological staff with Parks Canada and no body of independent archaeological contractors to call on.

In Banff, a cursory survey in 1966 of the Bow River Valley between Castle Mountain and Cochrane had noted a small number of sites.[17] However, the first archaeological investigations of any duration were those carried out by Ole Christensen of the University of Calgary under Reeves' direction.[18] Four months were spent with a small crew locating visible sites in high potential areas of the park, although, in accordance with the standards of the day, little subsurface testing was done, and the survey was not intensive or systematic. Unfortunately, the data from the 123 precontact sites found were summarized in Christensen's 1973 MA thesis on a park-wide basis, making it difficult to determine what was found at any one site in particular. These data were reworked into recommendations for conservation and interpretation of the sites in specific management areas,[19] but no more substantial work was done until the mid-1970s. Similar surveys were carried out in Jasper and

the Ya Ha Tinda.[20] As in Banff, the method was to search areas that could be easily reached in a wide and little-known area, using local informants, without any attempt to be systematic or intensive in coverage. A Yoho survey discovered only five precontact sites and a number of historic sites.[21]

The 1970s was a period of enormous growth in archaeological research in Alberta, resulting in part from the creation of the Archaeological Survey of Alberta and passage of the landmark *Alberta Heritage Act* in 1973 (later named the *Alberta Historical Resources Act*). The Act was passed after a public consultation process (led by Forbis) on the conservation of historical and archaeological resources was able to demonstrate strong public concern about the rapid loss of historic resources in the face of burgeoning economic development. At the time, such public recognition of the need to protect heritage resources was without precedent in Canada; similar heritage legislation was subsequently passed in all provinces and territories.[22] The legislation does not cover the federal lands of the national parks, but we have used the relevant provincial standards as a guideline for best practices, particularly for work at precontact sites, and we do share our data with the provincial and territorial archaeological bodies. The *Alberta Historical Resources Act* generated enough business in Alberta and British Columbia to support full-time archaeological consulting companies because it required development projects to do a heritage resources impact assessment prior to destructive work. Assessments began to be done for work within the national parks as well, on behalf of clients who were now accustomed to the need for similar assessments of their projects outside park boundaries. For example, proposed modifications of the CPR line in Lake Louise were assessed for their impact on any historic or precontact sites.[23]

Meanwhile, researchers from the University of Calgary undertook a systematic surface collection and test excavation at the Minnewanka site, an extensive and highly significant multicomponent precontact site where Clovis spear points had been found.[24] This was an attempt to see if there were any parts of the site that were undisturbed and not damaged by the wartime construction and subsequent operation of the reservoir. In 1978, before the construction of the Muleshoe parking and day-use area in Banff National Park, mitigative excavations at two deeply stratified sites along the Bow Valley Parkway identified a series of occupations going back about eight thousand years (although the strata were not as clearly separated as one might

like).[25] Along with the Minnewanka project, these represent the first excavations of consequence in Banff.

During this period, the few archaeologists with the National Parks Branch were in the east. In 1961, John Rick had joined the National Historic Sites Service in the newly created position of staff archaeologist.[26] He built up an archaeological staff in Ottawa to fill the need for expertise in historic archaeology and the study of material culture remains. They were needed to do the applied research behind the major reconstructions at such historic sites as the Fortress of Louisbourg and the Fortifications of Quebec. Historic archaeology was not very visible in Canadian universities then, but the research and expertise developed by the Branch was at the forefront of the discipline.[27] Indeed, the Society for Historical Archaeology later honoured Parks Canada with an Award of Merit for developing the field of historical archaeology for an entire nation; in 1994 award plaques were presented to each of its archaeology offices across the country. Archaeologists with the Branch came west in the late 1960s and early 1970s as part of similar reconstruction projects planned at three fur trade sites: Lower Fort Garry, Fort St. James, and Rocky Mountain House. This was the optimistic centennial era of "the big project," and one archaeologist has argued that such public projects were chosen more to reinforce national pride, and social and economic goals, than strictly for their importance as fur trade sites.[28]

Archaeological research was meant to inform substantial projects of reconstruction and interpretation at these sites, then called National Historic Parks. The name is telling; the goal was to provide living history, a full measure of activities and interpretation for the visitors, at an historic site with a large land base, in a manner analogous to the national parks. Archaeological excavations were a vital part of this effort; they located the exact spot of the fur trade buildings, discovered construction details, and found artefacts that could be used to lend authenticity for animated interpretation. But the work was tightly focussed on the fur trade structures. Today, such a project would also consider it necessary to test as deeply as possible to find any precontact remains below the fur trade era, and to test more widely across the landform, to look at questions about First Nations camps around the fort itself. The fur trade era would be seen as one component in the larger evolution of the site, and in the larger cultural landscape. Archaeologists today would be seeing

their role as researchers of culture and ecological adaptation in their own right, and not just as the handmaiden of history or historical reconstruction.

While the National Parks Branch developed a strong specialty in historic archaeology, staff with expertise in precontact archaeology were not hired. The idea was still that any precontact field or analytical work could be best done through contracts with the universities or one of the growing number of firms specializing in archaeological and heritage work to satisfy the demands of the new provincial legislation. The absence of precontact specialists was of particular concern in Western Canada. Parks Canada holdings in the east are dominated by the large national historic sites, and archaeological research needs are more skewed to the historic period. Within the mountain park block, the historic sites are largely related to railways, transportation corridors, and tourism; rather than significant built structures, we have a lot of space, a lot of backcountry, and an 11,000-year-long record of human use that has not left standing structures. Unable to rely on the national collections that had been developed for quite a different purpose, we have had to develop our own research specialities and reference collections.

1979–88: A Full-Time Parks Canada Archaeological Presence

In 1980, the Alberta Archaeological Society organized a forum to review the state of archaeology at the time of Alberta's 75th anniversary. Brian Reeves reviewed the eastern slopes area, including the foothills and mountains, and noted an explosive increase in the number of projects that had been done, mostly as Historic Resources Impact Assessments (HRIA) mandated under the terms of the 1973 Act.[29] This had greatly expanded the numbers of recorded sites, but Reeves was concerned that the pace of development and the reporting requirements of the Act meant that this knowledge was neither well reported in the professional literature nor available in a form accessible to the public. This applied to the surveys within the national parks, published in very limited editions in the National Historic Sites Service Manuscript Report Series. (Later this was continued as the microfiche report series, making it even less accessible. The series and indeed all archaeological publications were cancelled in the mid-1990s, a period of public service restraint.) Reeves

also called for a regional management strategy; while key sites within Waterton Lakes National Park were zoned for maximum protection in the park management plan, and areas within the national parks were generally protected, he was deeply concerned that there was no wider regional strategy for site research and management, integrated across municipal, provincial, and federal jurisdictions. This is still lacking today. Finally, he noted that, outside Waterton and the main valleys of Banff and Jasper, few excavations had been done in the mountain region, so there was still no culture history for Banff or Jasper, or indeed for any of the eastern slopes north of the Crowsnest and Waterton Lakes. This was urgent, given the huge industrial and recreational development pressures that the entire area was facing in this economic boom.

Reeves' 1980 review coincides with the beginnings of full-time professional archaeological staff in the Calgary Regional Office of Parks Canada, hired to work in the national parks and national historic sites in B.C. and Alberta. In 1963, the National Parks Branch decentralized into regional offices in Calgary, Cornwall, and Halifax, joined by additional offices in Quebec City and Winnipeg ten years later.[30] By the late 1970s, they each had their own archaeologists, historians, curators, and collections staff. In part, this decentralization from Ottawa was the result of the volume of work related to the large excavation projects that supported fur trade site restoration in the 1970s, such as at Rocky Mountain House. In the Calgary regional office, a full-time archaeologist was hired in 1978 when it became apparent that a number of major inventory and mitigation projects were coming on stream. Most work in the mountain parks since then has been done by archaeological staff with Parks Canada. At first, most were term staff or summer students; over time, more permanent staff have been hired, as the workload was demonstrated to be constant and steady. There have been two basic streams of research. One has been aimed at salvage work or conducting impact assessments of proposed projects within the national parks; this involves a high number of sites or projects with perhaps little work at each. The second has been more intensive, with excavation of key sites threatened by a development or by erosion or for research purposes. A separate focus has been compilations of the results for use in management plans.

Twinning the Trans-Canada Highway through the eastern part of Banff National Park presented an opportunity for a major program of site survey and excavation in the early 1980s.[31] In many cases the design of the highway

was altered to avoid the most important sites; where impact was unavoidable, excavations were done. The Vermilion wetlands in particular were ringed by a number of significant, deeply stratified sites, and between 1982 and 1986 there was an intensive program of excavation led by Daryl Fedje.[32] The emphasis was both on developing a culture history and using the palaeoecological information present in the site to reconstruct past environmental conditions in the lower Bow Valley. In an echo of Smith's early project at the housepits, palaeoecologist James White from the Geological Survey of Canada was hired for the duration of the project. In the mountain landforms, with active and often violent episodes of erosion and deposition, cultural deposits can be found many metres below the surface; older methods of shovel testing or surface surveys are not adequate, and some sort of backhoe or deep testing must be used. At the Vermilion Lakes site, archaeologists dug through three metres of deposits, finding a 10,700-year-old occupation at the base, with butchered bison and mountain sheep bones along with lithic waste flakes in their hundreds. The sheep were a post-glacial species larger than modern sheep.[33]

As visitors drive through Banff, heading west on the Trans-Canada highway along the Vermilion Lakes and onto the Bow Valley Parkway, they pass through a concentration of alluvial fan and dune landforms that were some of the earliest to appear as the glaciers retreated. This is one of the most significant concentrations of deeply stratified archaeological sites in the mountain parks. This is partly due to it being one of the earliest areas open for occupation, and to a favourable combination of dry sunny landforms and montane grasses where game and plant resources could be found, and partly to the way in which the landforms were built up, rapidly covering and sealing off the traces people left behind so they were preserved from erosion and decay. We have found no sites elsewhere in Banff or Jasper with such a long and detailed record of human occupation, although there are many smaller sites to be found with records from various time periods.

The culture history developed during the excavations at these key sites was used in the Banff Archaeological Resource Description and Analysis (ARDA), the first substantial regional analysis of Banff prehistory.[34] Parks naturalists and wildlife experts had been writing inventories of natural resources as part of the push to a more scientifically based management process. In 1985, a brief chapter on archaeological resources and park history

Fig. 4. Profile of the 1984 excavations at the deeply stratified Vermilion Lakes site, in advance of Trans-Canada Highway twinning. Successive episodes of alluvial flooding, aeolian deposition, and violent rockfall episodes have built up a deeply stratified site; a white volcanic tephra is visible just above the central rocky layer, and metal tags represent different cultural layers. Scale bar is 1 metre. [Calgary CRS 153r203e. Parks Canada.]

was included in the Banff National Park Resource Description and Analysis (RDA), a detailed inventory of all the natural and cultural features contained in the park.[35] In response to this brevity, cultural resources staff in Calgary developed ARDAs as a way of making the growing body of archaeological data available to park managers. For each park as a whole, ARDAs were an opportunity to consider thoughtfully the results of archaeological research on a regional scale and make recommendations for cultural resource management. The work in the early 1980s had been focussed on answering pressing development needs, such as the twinning of the Trans-Canada Highway, so most work had been in the more developed parts of the parks. But as they began to write ARDAs, Parks Canada archaeologists realized there were some sizeable gaps in the research and began more intensive survey programs in the more remote areas of the park. In 1987, a contract was let to inventory the Red Deer River watershed within Banff National Park.[36] This was the first serious look at this area since Christensen's 1969 survey, and the first intensive survey undertaken outside the Bow River valley. Significant finds included a third pithouse village site at McConnell Creek and a site with evidence of microlithic technology, suggesting influences from the Interior Plateau; the result was a general picture of the archaeological record that showed use of the area to have been long-term and almost as intensive as the Bow Valley. We think of it today as backcountry, but that concept relates to our own transportation patterns. Certainly people in the past have used the Red Deer valley consistently and repeatedly.

In that same year, Fedje surveyed other parts of the Banff backcountry, which either had never been assessed previously or which had not been visited since Christensen's work two decades earlier. These included the Clearwater River valley, the junction of Divide Creek and the Red Deer River, and Bryant Creek. In Jasper, Rod Pickard directed an intensive survey of the Athabasca River valley over three seasons and directed excavations at Jasper House National Historic Site.[37] These are examples of several wide-ranging survey projects that were undertaken in advance of writing ARDA documents for the mountain parks. They gave a useful overview of the sites in each park, but, in retrospect, they attempted far too much work in too short a time, resulting in a number of analysis and database problems that we are still clearing up. It would have been better to undertake less field work to allow more time for the necessary report writing and data entry.

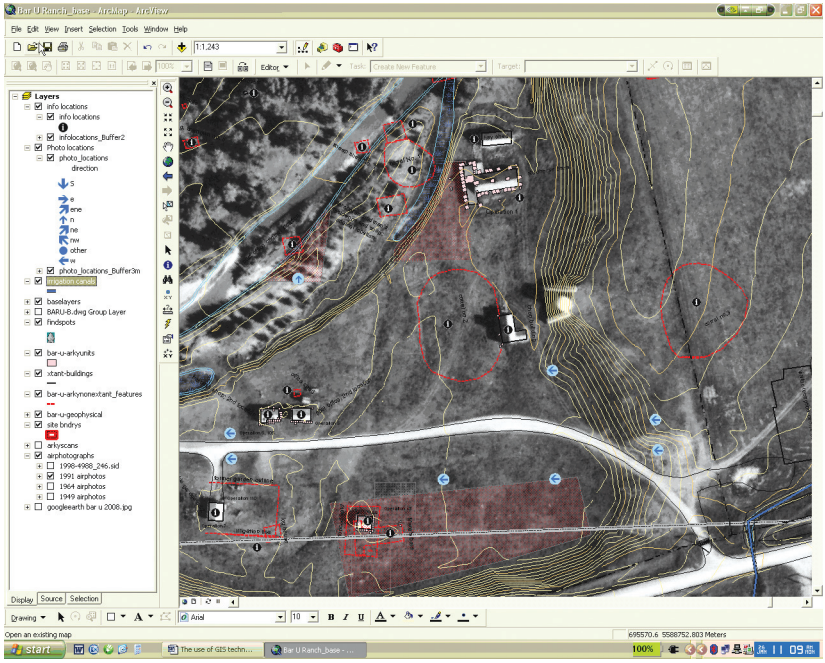

Fig. 5. Using GIS to make an interactive clickable base map of the Bar U Ranch National Historic Site. The aerial base map contains hot buttons that are linked to a nested series of databases, which include historic photos, built heritage history, and excerpts from archaeological and historical reports. These underlying databases can be indefinitely expanded, as more relevant information is discovered. The user clicks on the buttons to bring up pages from these other databases, as seen in Figure 6. [Calgary CRS. Parks Canada.]

The Banff and Jasper ARDAs were approved in 1989; ARDAs have since been written for all the mountain block parks, as well as for other parks and historic sites that are served by the Calgary Service Centre.[38] In 2002 an extensive revision of the original Banff ARDA was approved, incorporating recent work, a substantial program of GIS site modelling and mapping, and a long-term work plan. So far, this is the only ARDA that has been updated, and, in the course of these revisions, my conception of a useful ARDA has changed. The trick is to combine a regional overview and discussion, for professional archaeologists and researchers, with a "one-stop shop" useful to

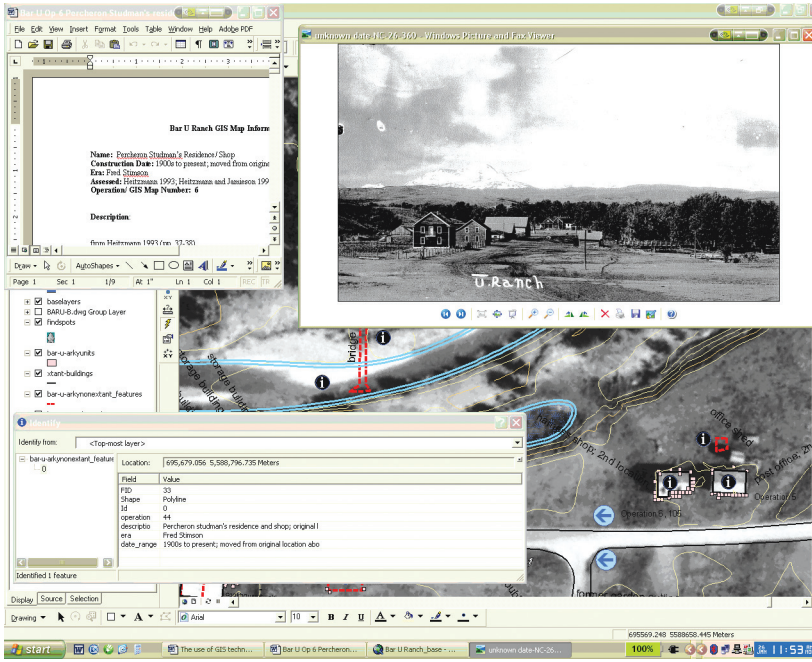

Fig. 6. An expanded version of the Bar U Ranch NHS desktop archaeological GIS database. [Calgary CRS. Parks Canada.]

park managers and interpreters: two rather different aims and audiences. We have dealt with this by treating the ARDA as a base document, with annual updates provided to the park in the form of digital, searchable GIS databases. The desktop user can click on each point on the map and bring up linked databases that display the site forms, visit history, reports, photographic archives, historic aerial views, and plans. This has made the archaeological and historic information much more accessible to the park manager and the public user. Calgary staff are pioneering work in the digital and spatial display and analysis of data for CRM purposes.

1989–2010: Integrating Cultural and Ecological Research in Park Management

Since the first ARDAs were written, the archaeological program in Banff National Park has involved less impact assessment and more basic inventory, site monitoring, and threatened-site excavation. This is partly because there are fewer development and recapitalization projects in these days of leaner budgets, and more are being deferred. Specialist staff are called in when appropriate. In the early 1990s, staff from the Ottawa Marine Archaeology Unit came to Lake Minnewanka to inventory submerged features associated with the former Minnewanka townsite and the various dams that have enlarged the lake.[39] They also recorded the submerged *Gertrude* in Emerald Bay in Waterton, and the World War II-era *Habbakuk* in Jasper. Archaeological staff have been much more involved with CRM training and management and with public archaeology programs. University archaeology field schools have been held at threatened sites where a large block excavation needs to be done.[40] In 1992, Brian Vivian from the University of Calgary began a two-year program of high-elevation survey under contract.[41] High-elevation areas had been surveyed incidentally, but this was the first systematic effort to examine the upper subalpine and alpine areas.

Archaeologists spend considerable time working with other Parks Canada staff in environmental assessment, ecological restoration, and cultural resource management. In 1993, Banff and Jasper National Parks each created the position of a warden responsible for CRM issues. While riding through the backcountry with these wardens, hearing the stories, and participating in the daily routines of riding and camp life, I gained a much stronger understanding of how and why the historic sites were distributed across the landscape in the way they were. In the smaller parks, the warden's responsibilities for CRM have often been combined with Environmental Assessment. This makes a certain amount of sense, as archaeological survey or salvage excavations are often part of the mitigations asked for during an environmental assessment. Passage of the *Canadian Environmental Assessment Act* (CEAA) in 1995 required cultural resources to be considered as part of environmental impact assessments; archaeological sites are often identified as one of the valued environmental components that must be considered. Parks Canada is

able to use the CEAA requirements as a minimum and may require stronger reaction to cultural impacts than other projects in less-well-protected areas.

It became particularly important to have strong support for the cultural resources after 1994, when Parks Canada was extensively re-organized. The Regional Office at Calgary now became a Service Centre, responsible for answering requests for professional services from the individual parks. Archaeological staff no longer had an envelope budget to spend as they saw fit but rather received money from each park's budget to do work that the park requested. This continues to present a challenge for our work in the smaller parks, as they have many other needs that can seem more pressing than CRM. The mid-1990s were also a time of extensive cuts in staff and services in Western Canada, as the federal government worked through a period of deficit reduction. But that same year, the new *Parks Canada Guiding Principles and Operating Policies* included for the first time a specific CRM policy, which required parks and historic sites to look after their cultural resources through inventory, evaluation, and monitoring and to consider the impact of all management decisions on these resources.[42] Though much of the policy was tailored for built heritage, and questions of restoration and reconstruction, the mountain parks responded by incorporating CRM concerns into their management plans and in some cases by creating specific CRM plans that cover built heritage, archaeology, and interpretation.[43]

Parks Canada still has to consider these archaeological sites along with its other mandates for national parks: resource management, public interpretation, and, above all, ecological integrity. This has some implications for archaeological research, not the least of which is funding: we can feel like the poor cousins, desperately grateful for any help we can get from our much richer ecological relations. How can we define acceptable and appropriate levels of human use that will at the same time ensure that ecological integrity is maintained? In Banff, for example, the planning process involves modelling a complex mixture of ecological information and information on modern uses and social needs. This is placed in the context of an ever-increasing level of human use of the park and a rapidly expanding regional population that is putting heavy pressure on the ecological integrity of the park.

Where does archaeological information fit in this process? First, archaeological and cultural resources are damaged by human use of the park. In an environment such as the high mountains, the locations for people's activities

Fig. 7. Quartz crystal and chert artefacts from site 1329R, Banff National Park. A modern high-elevation backcountry campsite is built directly on top of a precontact period site, and quartz crystal artefacts have been mistaken for broken glass, and cleaned up by well-meaning visitors. [Calgary CRS RAW 4240e. Parks Canada.]

are constrained. Many modern roads, trails, and campsites are located in the same place as an ancient site, and for the same reasons. If modern users are diverted from one area to another, it is possible that the increased traffic will damage a site to the point where mitigative measures are needed.

Second, past human activity has had an impact on the current ecological conditions: deliberate burning and plant-gathering over the years has formed vegetation communities and therefore affected animal distributions. The zooarchaeological and botanical evidence preserved within datable archaeological deposits can be of use to other disciplines.[44] The great strength of archaeology lies in its ability to look at changes over time. Ecologists and park managers seek to preserve ecological integrity, but what exactly does that mean? What is the range of variation in plant and animal communities that has existed over time? One very good way to examine that question is

through the palaeoenvironmental data contained in the soils, animal bones, and artefacts of archaeological sites. In the deep sites near Banff townsite, layers on top of layers have built up over time, containing plant and animal remains that reflect the environmental conditions of that time. Zooarchaeological and archaeobotanical analysis can give an idea of species that were there in the past, in what proportions or communities, and how these proportions have changed over time.

Bison provide one example of the possibilities for ecological study. Bison are a species that came perilously close to extinction and yet were once present in great numbers. For a park such as Waterton Lakes, with a large grassland area and montane valleys reaching deep into the mountains, bison must have been a significant component of the ecosystem. How is it possible to maintain ecological integrity now without having bison present? Park staff have recently considered whether or not it is desirable (and practical) to reinstate free-ranging bison or whether it is possible to mimic the ecological effects of bison through management of fire and other ungulates. Archaeological finds of bison, like a 3,700-year-old skull site at high elevation in Blakiston valley, can speak to the presence of bison in particular places at particular times. In addition, isotopic studies of their bone and teeth have shown patterns of seasonal migration between the fescue grasslands of the montane and the drier grasslands of the high prairies.[45] It would make a difference to a bison recovery strategy if you knew the proportion of a herd that spent all their days in the park as compared to that which spent their time in seasonal migrations, or whether bison had been completely absent from an area for long periods. Waterton has recently decided not to proceed with bison reintroduction, but it remains a stated long-term goal in the Banff Management Plan.

Another example is my excavation of a 720-year-old elk kill site on the Banff Springs golf course, very near Smith's housepits site. At least four individual elk were butchered at this site. Elk are extremely uncommon in precontact sites in the mountain parks, despite being highly visible animals today. As park scientists have been considering how and where to reintroduce or control modern elk populations, as part of a larger suite of measures to restore ecological integrity in the montane, they have been interested in evidence about where elk were in the past.[46] At this site, the bones were sufficiently well-preserved that mitochondrial DNA could be used to show that one of the long bone fragments was in fact moose, and not elk.[47] Often

in mountain sites the bones are not well enough preserved for traditional zooarchaeological techniques to visually identify fragments beyond the most general level. The use of DNA evidence could be extremely important for identifying uncommon remains.

Smith's house pits were not forgotten. We discovered more in the Red Deer River valley, at the Drummond Glacier, Divide Creek, and McConnell Creek sites. This housepit research reflects the changing priorities in CRM work: from Smith's concern to preserve and interpret an instructive ruin to the public, to Christensen's park-wide inventory, to Fedje's and my own targeted excavations designed to uncover the cultural history preserved within the pit features, to using the remains of butchered bison preserved in the site as part of an ecological argument for bison restoration in the Red Deer backcountry. A series of five radiocarbon dates obtained from charcoal layers in the central hearth of one single housepit at Drummond ranges between 920 and 2,560 years BP, suggesting a long period for reuse of this same feature.[48] Stratified sites of any kind in the subalpine are rare, and this is a significant sequence. People have been coming back to this very same hearth, time after time, cleaning it out and rebuilding their shelter, for nearly two thousand years. Why? Perhaps to hunt the bison attracted to the small meadows kept open by deliberate burning. Archaeological work at these sites has been done as part of a multidisciplinary program with the fire and vegetation ecologists and their interest in restoring bison to the ecosystem.

Where Have We Been? Where Are We Going?

Much of the archaeological work in the mountain park block has been done in order to establish a basic culture history framework in an unknown area, and as a CRM response to development pressures, with little in the way of explicit theoretical thought.[49] This has been the position of many CRM archaeology workers in Alberta and British Columbia: seeing the immediate need as one of salvaging all that we can learn from a site before it is destroyed by road construction or erosion. There has also been much less of an emphasis on recreating human behaviour in the past, on the anthropological side of things, and more on studying the adaptations people have made to changing environments and resources or the palaeoecological side of things. This is

partly because the mountain parks were established very early on, and there were few Aboriginal populations still physically living in these places for the early archaeologists and anthropologists to study. This is very different from other national parks, particularly on the British Columbia coast and in the north, where (as David Neufeld and Brad Martin discuss in this volume) national park reserves have been recently created in the context of modern treaty negotiations, and where culture and cultural resource management issues are a very strong part of the treaty and park establishment framework. In these cases, archaeologists and historians have been working much more closely with First Nations populations. This is beginning to come, though, for the mountain parks as well.

While archaeology has a long history as a discipline, it is hard to overemphasize how very recent it is as a recognized and supported research activity in the mountain parks. We currently have a staff member in Calgary who has been on staff for the *entire* time that there has been a regional Parks Canada archaeology program. In forty years, we have gone from having no knowledge at all of the archaeology of our mountain parks to having a very comprehensive and well-documented inventory. Excavations have let us define a culture history and describe the changes over time in lifeways and tool manufacture. Advances in mapping and GIS technology have let us model the changing patterns of human use of the landscape and integrate cultural data with other kinds of management planning and resource management issues. Cultural resources are now considered in environmental assessment programs, and, although this can be a bit of a struggle, there is a growing realization that these resources cannot be considered in isolation but rather as one part of an integrated landscape. This emphasis on understanding the cultural landscapes will surely continue in the next decades, along with a much stronger voice for Aboriginal people and other communities who wish to tell their own stories about their history.

Notes

1 I would like to thank James Taylor, for providing me with references concerning the correspondence between Harkin and Sibbald about the housepits at the Banff Springs Golf Course. I thank wardens Don Mickle, Rob Watt, Cal Sime, Rod Wallace, Mike Dillon, and many others for guiding me to the sites and for their enthusiastic support of the archaeological program in the National Parks. I thank warden Mike Dillon for finally teaching me the diamond hitch. I have been fortunate in being a student of both Richard Forbis and Barney Reeves at the University of Calgary. I thank Martin Magne and Claire Campbell for their comments.

2 An annotated chronology of archaeological projects carried out in Banff National Park is presented in E. Gwyn Langemann and William Perry, *Banff National Park of Canada Archaeological Resource Description and Analysis* (Calgary: Parks Canada, Cultural Resource Services, Western and Northern Service Centre, 2002), and for Waterton Lakes in William Perry, E. Gwyn Langemann, and Brian Reeves, *Archaeological Resource Description and Analysis, Waterton Lakes National Park* (Calgary: Parks Canada, Cultural Resource Services, Western and Northern Service Centre, 1997). A good portion of the archaeological literature about the mountain parks is unpublished, in the form of reports produced by consultants or by in-house staff. Parks Canada in Ottawa also published archaeological and historic research in a Manuscript Report series, which later became a Microfiche Report series, but this has been discontinued. The grey literature reports and the published series can be accessed by contacting the librarian at the Parks Canada Western and Northern Service Centre, in Calgary.

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6 The 1913 to 1915 correspondence concerning the Banff housepit site, between Rocky Mountains Park and Harlan I. Smith, Department of Mines, Geological Survey, is found in RG 84, vol. 2073, file A 4128-1, vol. 1, National Archives of Canada. A description of the various developments that have affected the golf course lands over the years can be found in Daryl W. Fedje and Alison J. Landals, *Archaeological Resource Impact Assessment, Banff Springs Hotel Golf Course*

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