



Research Links

A Forum for Natural, Cultural and Social Studies

Millennial Tides and Archaeology in Gwaii Haanas

Daryl Fedje

During the 1990s, Western Canada Service Centre (WCSC) archaeologists worked with Haida and consulting archaeologists as well as marine and terrestrial scientists to locate and interpret evidence of late-glacial to early Holocene occupation of the Gwaii Haanas area. This multi-year archaeological inventory required an interdisciplinary approach because Haida Gwaii has experienced considerable environmental change since the end of the last ice age, and this change has influenced human history significantly (Mathewes 1989, Fladmark 1989). Researchers are particularly interested in the connections between sea-level change and the evolution of human history. This research focusses on maritime adaptation, as the preponderance of cultural activity in Haida Gwaii is and has been associated with the shoreline.

Paleoecological research focussed on palynology (pollen studies) and sea-level research (Fedje 1993, Josehans et al. 1997, Mathewes 1989). Palynological work has shown that the climate and vegetation history of Haida Gwaii was very dynamic in early post-glacial times. Between 15,000 and 12,500 BP Haida Gwaii exhibited a

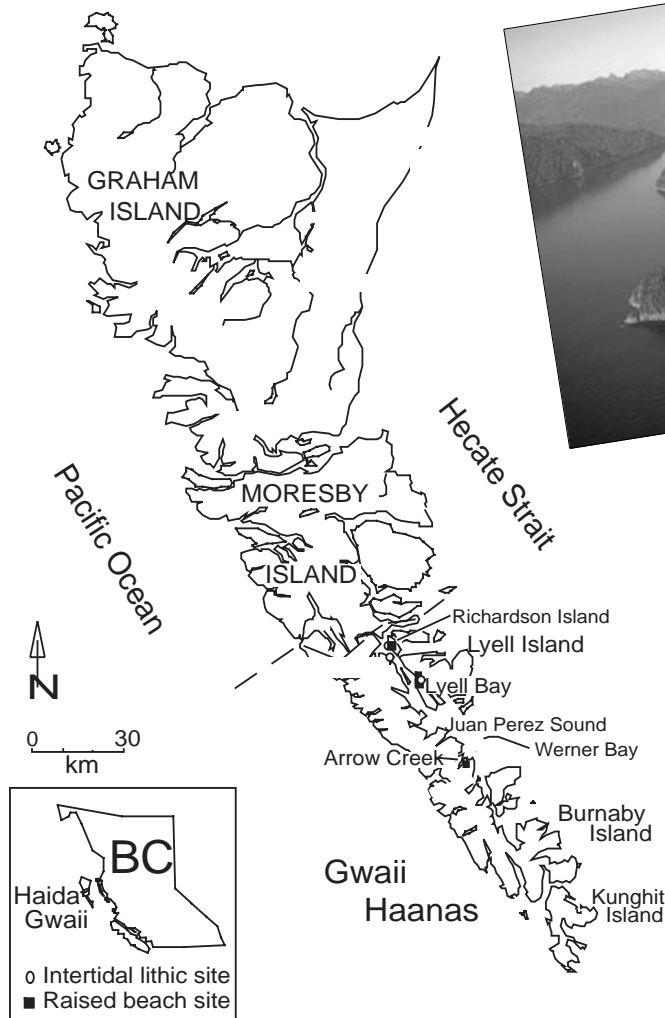
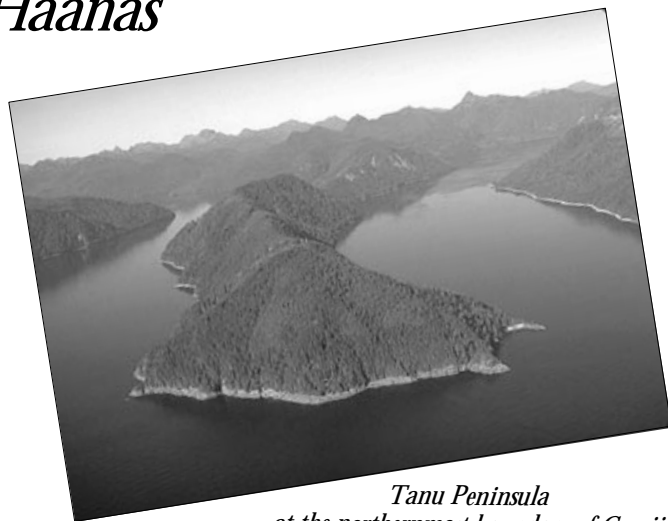


Figure 1. Haida Gwaii

cold tundra-like environment dominated by grasses, sedges and dwarf willows. Palynology suggests that pine were the first conifers to arrive in the area at about 12,500 BP. Spruce arrived about 11,000 BP, hemlock at 10,000 BP and cedar around 5,000 BP. Changes in vegetation communities reflect both post-glacial pioneering species and the communities' responses to



*Tanu Peninsula
at the northernmost boundary of Gwaii
Haanas National Park Reserve*

climate change.

Concurrent with changes in climate and vegetation were significant changes in sea-level position. Prior to about 11,500 BP the sea level in Gwaii Haanas was at least 150 m lower than it is today. Levels rose rapidly after that time, and by 9,000 BP they peaked at approximately 15 m higher than modern levels. The sea leveled off for 4,000 years and then fell gradually to current levels (Figure 1). These changes are the result of a complex interplay between isostatic (relating to weighting and unweighting of glacial ice on the earth's crust), eustatic (relating to the amount of water trapped on land in the form of glaciers and ice caps) and tectonic (interplay between Pacific and North American Plate) factors.

Environmental history, especially that relating to sea-level change, has been key to uncovering evidence of early human occupation in the area of Haida Gwaii. Modeling past shorelines has led to discovery of a number of archaeological sites on beaches stranded in the rainforest and tantalizing indications of occupation on deeply drowned landscapes.

- continued on page 6 -

ARTICLES

- 1 Millennial Tides and Archaeology in Gwaii Haanas
Daryl Fedje
- 4 Stable Carbon Isotope Analysis of Archaeological Bison Bone
Gwyn Langemann
- 5 The Bare Bones of Ranch History: Zooarchaeology at the Bar U Ranch
Kristi Benson
- 8 Archaeological Resource Description and Analysis
Peter D. Francis
- 9 Built Heritage Resource Description and Analysis
C.J. Taylor
- 13 Microblades & Human Adaptation in Gwaii Haanas
Martin Magne
- 14 "Picking Up the Threads" — Métis History in the North
Diane P. Payment
- 17 1999 ts'ishaa Archaeology Project: Pacific Rim National Park Reserve
Ian Sumpter
- 18 The Vanishing Past: Erosion at the Lake Minnewanka Site
Alison Landals

DEPARTMENTS

- 2 Editorial
- 3 Welcome
- 10 Research Highlights
- 22 PODIUM
Challenges for Cultural Resources Management into the 21st Century
Rod Heitzmann
- 24 Meetings of Interest

FRANCOPHONES

Le texte de cette publication est offert en français. Vous pouvez l'obtenir en écrivant à l'adresse dans la p.16

UPCOMING DEADLINES

SUM/AUT 2000—March 24, 2000
WINTER 2000—July 28, 2000

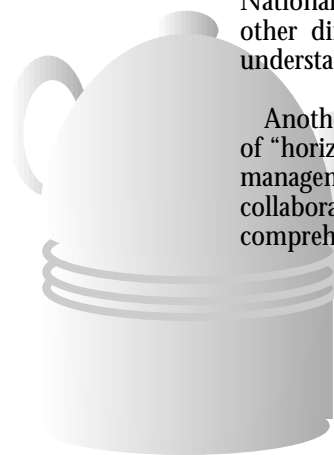
EDITORIAL

Special Feature on Cultural Resources

To kick off the Year 2000 series of *Research Links*, this issue focuses on some key cultural resource management research. I think that these articles, while not entirely representative of the full range of CRM activities, highlight the very significant progress that Parks Canada has made in this major program area. We can see evidence that the management approaches are maturing as we find consistent ways to address basic management needs through archaeological and built heritage resource description and analyses (ARDAs and BHRDAs). These methods provide a solid framework for organizing resource information, and they continue to evolve to meet changing needs.

Basic, discipline-specific research is a necessary component of understanding the scientific, historic, and human values of our resources and underpins operational management concerns. Cultural resource managers are engaging more aspects of Aboriginal culture and history in their planning and actions, through true partnerships. These partnerships and others such as those with universities have been extremely beneficial to the National Parks and National Historic Sites, largely because they provide other dimensions to our national awareness and understanding.

Another important aspect of these articles is the use of "horizontal" methods of addressing research and management needs. Frequent communication and collaboration among disciplines is leading to more comprehensive research. Cultural resources of vari-



WELCOME!

Welcome our new Editorial Board members:

MARY REID

Mary Reid is an ecologist at the University of Calgary, within the Department of Biological Sciences and the Environmental Science Program. Her research examines the links between bark beetle ecology, forest structure and tree quality. Through teaching in the Environmental Science Program, she has also been involved in undergraduate research projects on Evan Thomas Creek in Kananaskis and Bragg Creek.

JOHN WOODS

John Woods started with Parks Canada in 1972 as a Chief Park Naturalist at St. Lawrence Islands National Park. He moved to western Canada in 1975 and has since lived in Revelstoke, Canmore and Vancouver. During his career, John has worked on a variety of park interpretation and wildlife research projects, including a study of the effectiveness of fencing and underpasses along the TransCanada Highway in Banff, and the West Slopes Bear Research Project. John is a Registered Professional Biologist in BC. He holds a BSc in biology from the University of Guelph and a PhD in zoology from the University of British Columbia. He is currently a Wildlife Biologist for Mount Revelstoke and Glacier National Parks.

Management

ous types, such as building logs or archaeological faunal remains, often contain environmentally significant information, and conversely environmental information can be critical to understanding ancient and more recent human history. For example, techniques applied in "zooarchaeology" are becoming more common as we learn that a single sample can provide biological and cultural information to address a wide range of questions—What were animal migration patterns thousands of years BP? How did early humans use local food sources? How did food consumption differ because of differences in social standing?

As an organization we are getting much better at understanding the basic principles of the CRM Policy and I dare say we are applying them well. We may not always realize the extent of our progress, but as a highly principled, conservation-minded agency we hold high standards for which we should be very proud. No doubt the years to come will pose challenges and no doubt we will find innovative and interesting ways to meet them. Clearly the research featured here indicates firm commitment to ensuring a high level of integrity not only in our ecological systems and historic commemorations, but also in our working relationships and professional endeavours—and things can only get better.

*Martin Magne
Manager, Cultural Resource Services, Western Canada
Service Centre*



Stable Carbon Isotopic Analysis of Archaeological Bison Bone

Using zooarchaeology to address questions of the past ecology of bison



Gwyn Langemann

Zooarchaeology, the study of animal bones from archaeological contexts, provides a unique opportunity for researchers to understand animal communities in the past. Archaeologists are currently undertaking a stable carbon isotopic analysis of bison (*Bison bison*) bones from Waterton Lakes National Park (WLNP) and Banff National Park (BNP) to understand the past diet and migration patterns of bison. Researchers and managers in WLNP are using this technique to consider questions of fescue range management, and BNP is interested in exploring the issue of restoring free ranging bison to their historic range within the Central Rockies Ecosystem.

Archaeologists have long used animal bones to answer questions about human use of animals over time. The bones can indicate the presence of particular species, the season in which they were hunted, how humans selected the animals by age and sex, and how the animals were butchered and discarded. Bison bones are present consistently throughout prehistory in archaeological sites in BNP, although bison were never the dominant species as they were in WLNP.

Tamara Varney, a graduate student in physical anthropology at the Department of Archaeology, The University of Calgary, is currently undertaking a stable carbon isotopic analysis of bison bones from WLNP and BNP (Varney *et al.* 1997). The bone samples date within the past 3000 years, and represent approximately 28 individuals. By applying new techniques to this existing collection of bones from a number of archaeological sites, researchers can address questions of broader ecological interest that have arisen since the faunal material was originally recovered. The main purpose of this preliminary analysis is to determine whether there were resident bison populations in the foothills and mountain valleys, or whether bison herds were more migratory and used the foothills and valleys as wintering areas (Chisholm *et al.* 1986; Epp 1988).

Stable carbon isotopic analysis is a useful technique for this study because plants in different environmental conditions have different stable isotopic compositions. When plants are consumed by an animal, the isotopic composition is evident in the animal's tissues. In particular, the isotopic composition of bison bone collagen (a tissue that is slow to be replaced) reflects what the animal consumed over its lifetime.

Plants can be divided into two main photosynthetic pathways: the C3 pathway that includes most temperate grasses and the leafy and woody browse plants, and the C4 pathway that includes the more arid grasses. Carbon appears naturally as two stable isotopes: ^{13}C and ^{12}C . These isotopes behave slightly differently in chemical reactions, because the ^{13}C isotope is slightly heavier. The C3 photosynthetic process discriminates against the heavier ^{13}C isotope, so there is less ^{13}C in the tissues of animals that feed mainly on C3 grasses. Bone collagen analyzed through mass spectrometry reveals the relative proportions of the two stable carbon isotopes, and makes it possible to infer the proportion of C3 to C4 grasses the animal consumed. Tieszen (1994) provides further details of the methodology, and the environmental variables that may affect proportions of isotopic carbon.

The geographic distribution of C3 and C4 grasses is distinct. The Canadian grasslands define the northern limit of distribution of C4 species in North America. Fescue prairie on the eastern slopes of WLNP contains virtually no C4 grasses, and less than 1% of the grass community is the C4 blue gramma grass (*Bouteloua gracilis*). The proportion of C4 grasses increases to the south and east, in the more xeric mixed and true prairie communities. A bison spending all of its time in WLNP or BNP would consume almost exclusively C3 grasses and browse. Any bison bone sample taken from a mountain or fescue prairie site that shows a demonstrable proportion of C4 grasses in the diet would therefore be from an animal that has moved into the mountains or fescue prairie from an area with higher concentrations of C4 plants. This result

would imply that the bison migrated between the xeric grasslands and the place where the animal died.

Stable carbon isotope analysis of the 28 samples from WLNP and BNP indicated that these bison migrated. The first group of 16 samples represented sites in all the main watersheds in WLNP, including higher elevation areas. Fourteen of the individual bison tested were consuming C4 grasses, enough to account for between 10% and 23% of the diet of the individuals sampled. These bison must have fed well to the east or south of WLNP in the xeric grasslands for at least some part of their lives. However, none of the samples had the high C4 values expected if the animals had been residents of xeric grasslands. Two individuals had 4.3% and 7.9% C4 in their diet (very low consumption of C4 plants), which suggests they were either residents of the parks or moved through the parkland and foothills.

Nine samples were taken from the Entrance Site in Waterton Lakes (Site 572R), which is a major archaeological winter campsite where there were substantial excavations in the late 1960s. Enough bison bone was collected to allow a series of samples from the same skeletal elements, thereby ensuring that each sample was from a different individual. The results for this site varied between 13.6% and 27.9% C4 grasses in the diet, indicating that these 9 animals obtained a considerable part of their diet from the xeric grasslands.

Samples of bison bone from two sites in Banff, both in areas currently very far from any C4 grasses, were analyzed for comparison. A bison sample from Lake Louise indicated 12.9% C4 grass consumption, a value in the same range as most of the Waterton samples. A bison sample from Scotch Camp on the upper Red Deer River was 4.3% C4, which is a low proportion of C4 plant intake. Another sample from Milk River, well into the xeric mixed prairie grasslands, had 20.7% C4, in the same range as many of the Waterton Lakes samples.

- continued on page 12 -

The Bare Bones of Ranch History



Kristi Benson

The Bar U Ranch was established in 1882 and remains an active ranch today. Parks Canada recently acquired the ranch headquarters as the Bar U Ranch National Historic Site (1991), dedicating it to the discovery, preservation and interpretation of ranch history in Southern Alberta. In 1998, as part of this work, I initiated a zooarchaeological study of the bones and bone fragments excavated from the Bar U Ranch. This project involves the study of the animal bone collection excavated from the area immediately surrounding the cookhouse/bunkhouse of the Bar U Ranch. Several important research questions are: What did the cowhands eat? Did their eating habits change over the years? What can this site teach us of ranching history in Alberta? These research goals have the potential to redress a dearth in the historical record as to the daily lives of ranch denizens of all sorts, especially in the early years of the Bar U's operation. The project is particularly relevant to the cowhand who was less inclined to write diaries, letters or books about his experiences.

Quebec cattleman Fred Stimson organized, managed, and in part funded the Bar U Ranch or Northwest Cattle Company operation. Located on Pekisko Creek in the rolling foothills of Alberta's Rocky Mountains, the ranch avoided many of the management problems that plagued other large corporate ranches, and it is possible that herein lay the Bar U's success. Stimson loved the west and was a superb leader who reconciled eastern finances with western sensibility (Evans 1994). The ranch was purchased in 1902 by one-time Bar U foreman George Lane and his partners. Lane was a member of the famous "Big Four" – the wealthy group of Albertans who donated the prize money for the original Calgary Exhibition and Stampede. After his death the ranch went into the hands of magnate Pat Burns, another member of this influential foursome (Palmer 1990).

Some of the owners and managers of the ranch are Alberta legends, but a Hollywood conception of the cowboy remains prominent. The image of the Stetson-wearing fellow fighting elements of a wild frontier during the day and singing softly to his herd at night is a romantic but somewhat unrealistic picture of Alberta's turn-of-the-century cowhands. In contrast, Alberta cowboys were often employees of huge, staffed ranches that had holdings of hundreds of thousands of acres. The ranches were owned by groups of wealthy elites and businessmen residing in eastern Canada or Britain. Thus, the life of a cowboy was structured by social hierarchy.

Every job on the ranch was essential. Cowhands spent much of their day (depending on the season) out with the stock or breaking horses. In later times, they also handled mixed farming duties such as haying and harvesting crops. Accordingly, the cowhands' lives required outdoor skill, strength, and determination. Other positions on the ranch included the cook and the sub-management: the foreman and the treasurer. The manager was often handpicked by the wealthy owners and dealt with all aspects of running the ranch from beef sales to haybales. Drawn from different populations and differing drastically in responsibility, wages and benefits (Benson

1999), these groups worked together to make the ranch a functioning whole.

METHODS

Archaeology on the Bar U Ranch has been carried out through a Public Archaeology Programme for several years under the supervision of Rod Heitzmann, Parks Canada. Excavation in these circumstances mitigated any possible damage or disturbance while the ranch buildings underwent preservation and reconstruction. The collection used in this study was excavated from the periphery of the modern Cookhouse/Bunkhouse (Operation 11), an area that housed several versions of these buildings over the ranch's occupation. Parks staff cleaned and catalogued the bones after excavation, after which they were delivered to the faunal collection/lab at the University of Calgary. Here I identified the bones and noted the following features and attributes: species, portion, cutmarks (indicating how the bones were butchered), fusion stage (to determine approximate age at death), and sample weight.

Historical data are useful additions to this project. Various cuts of beef have been assigned monetary values based upon historical prices in the United States (Schultz and Gust 1983) before the turn of the century. If interpreted with caution regarding differences in time and place, these values can guide our impressions of what the men ate. A yearly inventory list from another southwestern Alberta ranch, the Walrond, is a window into the larder of a ranch cook's kitchen (Walrond Ranch Papers, Glenbow Archives, Calgary). These sources and others help to develop an understanding of the cowhands' diet and fill gaps in traditional historical archaeology. Fruits and other perishables are not often recovered, even from modern historic sites.

RESULTS AND DISCUSSION

An analysis of the bones at the Bar U Ranch's cookhouse is starting to uncover an interesting story about the daily lives of the men who resided there. With the help of historical records from a nearby ranch (Walrond Ranch Papers, Glenbow Archives, Glenbow-Alberta Institute, Calgary) that outline the yearly inventory for the time period in question, the bone samples from this excavation will increase our understanding of cowhand diet and culture. This information will complement historical data about the more literate, wealthy ranch owners, or those still living, resulting in more accurate and comprehensive historical site interpretation.

The men of the Bar U Ranch ate a large variety of different cuts of meat, from the most expensive (short loin) to the cheapest (fore- and hindshank). Much of what they ate falls into the middle categories, such as ribs, short ribs, and chuck. They also ate surprising amounts of other meats, including chicken, pork, turkey and the occasional goose. Some wild game (for example deer) is also represented, and butchered in a similar manner to the

- continued on page 21 -

HAIDA LEGENDS

about the millennial tides

THE FLOOD TIDE

The people of Tle made fun of a sea-otter, and were punished by a flood. They floated up in their canoes, however, to the top of a mountain just back of the town, which was not covered by the water. There they built another town (Swanton 1905).

THE EBB TIDE

It (Xa'gi) came to the surface like a reef in the falling tide. On top of it a woman called Foam-Woman was sitting, and the families of supernatural beings swam over to it from all sides. Only those were there out of whom the present island families were going to come. ... When quite a piece of it was above the surface, they began to talk over where they were going to settle... Then they separated and the Squaladas went to the west coast. Those of the Xa'gi Town-People, who in successive generations came out of the woman's womb, are the family leaders. They told them where they had to settle (Swanton 1905).

Millennial Tides and Archaeology in Gwaii Haanas

- continued from page 1 -

In 1995 we located 17 archaeological sites on raised beaches, 15 m above sea-level, and began a programme of research (Fedje and Christensen 1999). Between 1995 and 1997 four raised beach sites were investigated including Richardson Island, Lyell Bay (2 sites) and Arrow Creek. The Richardson Island site contains an archaeological record extending from 9,300 to 8,400 BP. This site is deeply stratified with 40 occupation levels identified in a 5 m deep excavation. The site contains abundant stone tools (*see Magne p. 13 in this issue*) and evidence of hearths but very little in the way of organic remains other than charcoal. The Lyell Bay sites date from 8,800 to 6,000 BP. The Arrow Creek site dates from 8,800 to 5,000 BP, but most of our data comes from excavation of an occupation level dating to about 7,500 BP.

Cooperative research between Parks Canada and the Geological Survey of Canada enhanced knowledge of sea-level history in western Hecate Strait and led to a programme of detailed modeling of select areas of the sea floor adjacent to Gwaii Haanas (Fedje and Josenhans *in press*, Josenhans *et al.* 1997). Subsequently we sampled these areas for geological and archaeological sites. The integration of swath bathymetry (very detailed high resolution soundings) of southern Juan Perez Sound and sea-level history produced detailed imagery of the sea floor and showed a variety of deeply drowned landforms associated with terrestrial landscapes of the past. The images (Figure 3) show former lakes, rivers, streams, terraces, deltas and a variety of other features relating to the dynamic history of environmental change in this area. Sampling these landforms using a large volume clamshell bucket produced a variety of physical evidence of this landscape. Significant results include recovery of a variety of intertidal shellfish at depths to 135 m, a spruce stump dating to 10,500 BP, a pine stump dating to 12,200 BP rooted in a peaty forest soil from 145 m depth and, a stone tool from 53 m below sea-level. The stone tool may date to about 10,000 BP based on sea-level history.

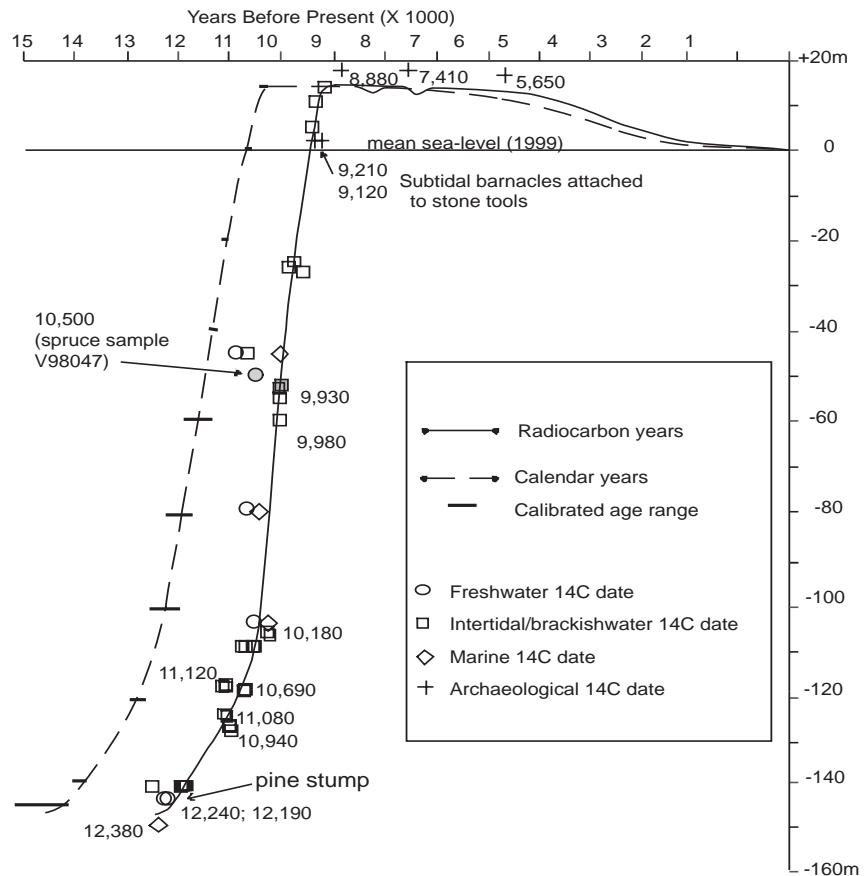


Figure 2. Relative sea level curve for Gwaii Haanas

Millennial Tides and Archaeology in Gwaii Haanas

- continued from page 6 -

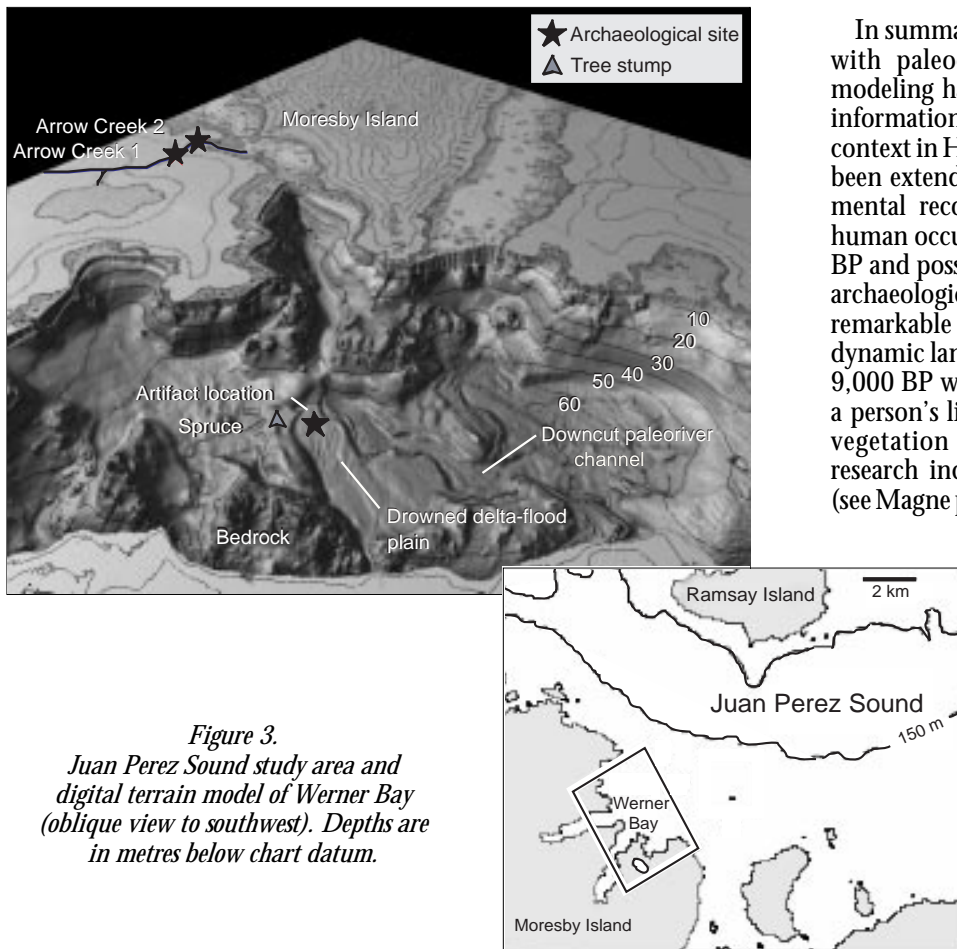


Figure 3.
Juan Perez Sound study area and digital terrain model of Werner Bay (oblique view to southwest). Depths are in metres below chart datum.

In summary, investigations integrating archaeology with paleoenvironmental research and landscape modeling have led to the recovery of significant new information on human history and its environmental context in Haida Gwaii. The archaeological record has been extended to about 10,000 BP and the environmental record shows that a landscape suitable for human occupation was present in this area by 12,200 BP and possibly as early as 13,000 to 14,000 BP. The archaeological investigations provide a glimpse of a remarkable record of human adaptation to a highly dynamic landscape. This is especially so at >10,000 to 9,000 BP when sea-levels were rising 2 to 3 m within a person's lifetime at the same time that climate and vegetation were changing profoundly. Ongoing research includes detailed analysis of archaeological (see Magne p. 13) and environmental (paleovegetation studies being carried out at Simon Fraser University) assemblages. In the future we anticipate more detailed investigation at key sites such as Richardson Island and hope to extend our modeling approach to eastern Hecate Strait where the earliest post-glacial shorelines are stranded in the rainforest rather than drowned by the sea. Ultimately these approaches should lead to a better understanding of early post-glacial settlement and adaptations along the Northwest Coast.

Daryl Fedje is an archaeologist with the Western Canada Service Centre in Victoria. Tel: (250) 363-8555; fax: (250) 363-8552; e-mail: daryl_fedje@pch.gc.ca

REFERENCES CITED

- Fedje, D.W. 1993. Sea levels and prehistory in Gwaii Haanas, M.A. thesis University of Calgary, 160p.
- Fedje, D.W. and T. Christensen. 1999. Modeling paleoshorelines and locating early Holocene coastal sites in Haida Gwaii. *American Antiquity*. 64: 635-52.
- Fedje, D.W. and H. Josenhans. *in press*. Drowned forests and archaeology on the continental shelf of British Columbia, Canada. *Geology*.
- Fladmark, K.R. 1989. The native culture history of the Queen Charlotte Islands, in Scudder, G. and Gessler, N. eds., *The outer shores*, Queen Charlotte Museum Press, Skidegate.
- Josenhans, H., Fedje, D.W., Pienitz, R. and Southon J.R. 1997. Early humans and rapidly changing Holocene sea levels in the Queen Charlotte Islands -Hecate Strait, British Columbia, Canada. *Science* 277: 71-74.
- Mathewes, R.W. 1989. Paleobotany of the Queen Charlotte Islands, in Scudder, G. and Gessler, N. eds. *The outer shores*, Queen Charlotte Museum Press, Skidegate, p. 75-90.
- Stuiver, M., Reimer, P. J., Bard, E., Beck, J. W., Burr, G. S., Hughen, K. A., Kromer, B., McCormac, G., van der Plicht, J., and Spurk, M. 1998. INTCAL98 radiocarbon age calibration, 24,000-0 cal B.P.: *Radiocarbon*, 40: 1041-84
- Swanton, J.R. 1905. Contributions to the ethnology of the Haida, *Memoir of the American Museum of Natural History*, No. 5 Part 1, New York.

Archaeological Resource Description and Analysis

A Holistic Archaeological Resource Management Tool

Peter D. Francis

The Archaeological Resource Description and Analysis (ARDA) series is produced by Parks Canada Agency archaeologists working out of the Calgary and Victoria offices of the Western Canada Service Centre. The series began in 1989 with the production of two volumes: one each for Banff and Jasper National Parks. These, and the subsequent volumes in the series, are designed to be the primary archaeological resource management document for each national park and selected national historic sites in Alberta and British Columbia (BC). In each volume, readers can find the collective information about the archaeological resources within a specific national park or national historic site and the concomitant management issues concerning those resources.

The ARDA series is designed primarily to serve the needs of Parks Canada managers and planners in Alberta and BC who are faced with difficult decisions about natural and cultural resource management. The series also serves the needs of academic researchers as well as those entrusted with the presentation and interpretation of material cultural resources that are associated with historical themes. Historical themes include Precontact Human Occupation and Land Use, Native Peoples from First Contact to the Present, Fur Trade Exploration, Transportation, Settlement, Resource Extraction, Tourism and Recreation, History of the National Park, and Managing a National Park. In addition, the series serves as a useful reference for Parks Canada staff and private contractors undertaking Canadian Environmental Assessment Act screenings and environmental assessments in advance of terrain-disturbing development projects. The ARDA series has come to be used as a holistic tool for planning, management, education, and research.

Each ARDA volume reflects the knowledge derived from all archaeological studies conducted within a particular national park or national historic site. In most of the mountain parks of Alberta and BC, the research dates back to the late 1960s. To date, the series consists of 8 national

park-specific volumes including Banff (1989), Jasper (1989), Kootenay (1989), Elk Island (1992), Yoho (1993), Pacific Rim (1993), Waterton Lakes (1997) and, most recently, Mount Revelstoke and Glacier (1999). ARDAs are in preparation for the major national historic sites including Rocky Mountain House, Fort St. James and Fort Langley. The archaeologically rich Ya-Ha-Tinda Ranch will also be included in the series.

Each ARDA volume provides the following information:

- a summary of the archaeological research undertaken within a particular national park or national historic site, placing that research in a broader regional context;
- a section identifying geographic areas and time periods that are not well understood as well as biases that affect the archaeological record and archaeological analysis, all of which form the basis for recommendations for future research;
- a culture history of the region based on archaeological and ethnographic research;
- an annotated inventory of known archaeological resources;
- a summary of existing research publications, resource management reports, and relevant Parks Canada policies and procedures;
- a detailed discussion of archaeological resource potential and both general and specific management concerns in order to provide cultural resource management direction for Parks Canada staff and managers;
- a section identifying threatened cultural heritage resources and archaeological sites that should be protected because of their high scientific and local significance; and
- an outline of long-term goals and strategies for cultural resource management.

Updating and revision are an integral part of the ARDA production process. A new cycle of ARDAs, beginning with Banff National Park (scheduled for completion in 2000), will reflect additional archaeological resource information and current management concerns and incorporate information obtained using Geographical Information System (GIS) technology. In the recent Waterton Lakes and Mount

- continued on page 12 -

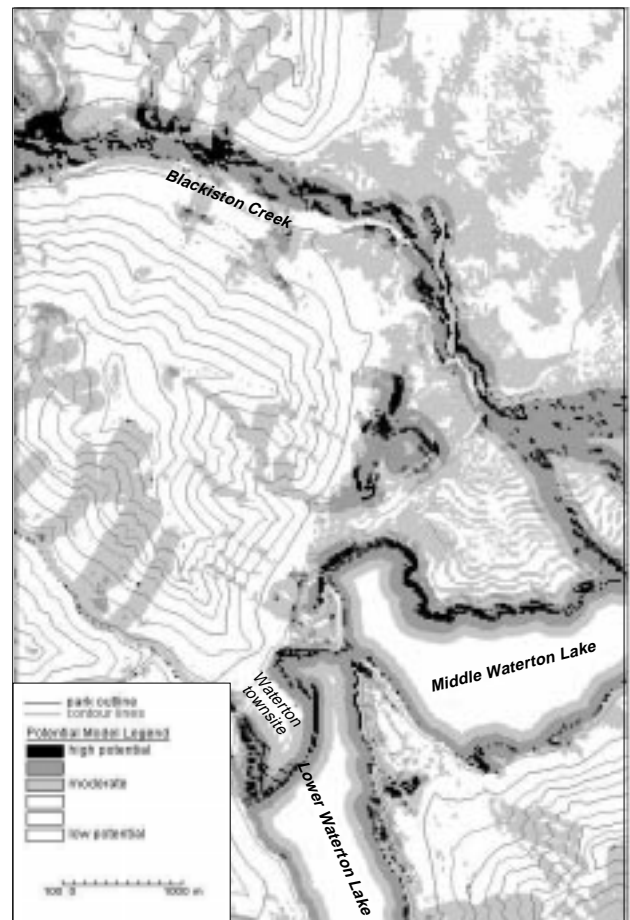


Figure 1. Detail of Aboriginal Campsite Potential Model, Waterton Lakes National Park

BUILT HERITAGE RESOURCE DESCRIPTION AND ANALYSIS



*Streetscape, Jasper
Park Lodge*

Photo: Pat Buchik

C.J. Taylor

Built Heritage Resource Description and Analysis (BHRDA) was first proposed in 1990, as a means of providing comprehensive surveys and evaluations of culturally significant buildings in the western national parks. The proposal reflected a growing awareness by Parks Canada that national parks contained important cultural resources that merited recognition and protection. Previous parks inventories — the Resource Description and Analysis (RDA) and the Archaeological Resource Description and Analysis (ARDA) — provided useful overviews of cultural resources in the parks but were not focused on built heritage. The Federal Heritage Building Review Office (FHBRO) evaluates all federally-owned buildings over 40 years of age, but it does not evaluate leasehold property, takes a piecemeal approach to other property and does not consider local contexts. The FHBRO evaluation is not comprehensive and does not provide a definitive standard for determining heritage value. Consequently, the BHRDA was proposed to complement the RDAs and ARDAs, whose approach was already accepted by the mountain parks.

Waterton Lakes National Park was the first client to see the value in conducting a BHRDA on the townsite buildings in 1991. Parks Superintendent, Charlie Zinkan acknowledged that the park had an obligation to be more aware of its cultural heritage, in particular its historically significant buildings. The project team consisted of Pat Buchik, heritage architect from Calgary, Ted Mills, architectural historian from Ottawa, and myself as project manager. We developed an approach that involved surveying the buildings in the townsite, including both federally owned and leasehold land, and then assessing them according to modified FHBRO criteria. The evaluation produced 2 lists: one identified 10 culturally significant buildings (the “A” list), and the other identified 25 supporting or secondarily significant buildings (the “B” list).

Jasper National Park liked the BHRDA concept and hired Sandy Aumonier, a heritage planner in Calgary, to produce a similar study of its townsite. Aumonier produced a draft BHRDA in 1993, then worked with a municipal heritage advisory committee to refine the product and provide protection guidelines for the town’s heritage buildings.

Pat Buchik and Calgary-based staff historian Graham MacDonald completed a BHRDA for Field Townsite in Yoho in 1997. The introductory section of the Field BHRDA provides the historical and architectural context of the townsite. Individual building reports follow, with an identifying photograph, tombstone information of date of construction, builder, original use and address, statements of heritage character and character defining elements for each building. The heritage character statements are the guidelines for the continuing conservation of the building. At the end of each building report is a score (high to low) in each of the 3 evaluation categories: historical, architectural and environmental or contextual significance.

In 1992, the project team undertook a BHRDA of Jasper Park Lodge, a unique facility within the national parks consisting of 111 buildings spread out over 365 hectares. We soon came to realize

that from a cultural heritage perspective, the whole was more valuable than the sum of its parts. As we wrote in the introduction to our report:

The heritage character of Jasper Park Lodge derives from the buildings and landscape features installed between 1921 and 1972 largely concentrated in 120 hectares of the 365 hectare lease site and which collectively define the distinctive character of the facility.

Consequently, we chose to focus on 9 activity zones rather than individual buildings. After the introductory historical context, the report provides descriptions of the zones. Each zone description outlines the prominent building and landscape features, and is followed by an analytical paragraph entitled “Planning Considerations.” The paragraph presents the heritage characters of the zones in a way that directs attention to individual buildings and associated landscape. This is the planning consideration statement for a cottage area designated Zone B:

The original planning intent in Zone B was compromised to some extent by 1970s infill. Nonetheless, the area retains some of the most significant log architecture on the site. To date, the details and facades of the older buildings have been carefully preserved and enhanced by retention of the distinctive original Jasper Park Lodge colour scheme. Significant alterations to the building exteriors should be guarded against and the integrity of the outer streetscape preserved.

The Jasper BHRDA concludes with an architectural survey that includes individual building reports on representative heritage buildings. Not all culturally significant buildings are included in this section, only those that, together, illustrate the principal building types of the facility. Based on the model of the Jasper BHRDA, this zonal approach for evaluating national park architecture was followed in 4 subsequent BHRDAs: the Jasper Park Lodge golf course (1994), the Lake Edith subdivision in Jasper (1996), Lake Louise (1998), and Waterton Lakes National Park outlying facilities (1998).

The zonal approach makes it easier for managers to respond to planning concerns. First, the approach is similar to that employed in environmental assessments, therefore simplifying the task of combining cultural and natural history perspectives in a single environmental sensitivity report. Second, the approach recognizes that park planners take a zonal perspective to land development. By describing the cultural values collectively within defined areas, we are better able to influence planning guidelines. And third, we have found that identifying zones helps to us to understand the values of their heritage buildings. The experience of Jasper townsite where “A-listed” buildings are isolated on re-developed blocks is a cautionary tale. Streetscapes, landscaping, common set backs and massing have important effects on preserving the heritage character of national parks architecture. These characteristics are better understood in a zonal context rather than as individual building heritage character statements.

- continued on page 21 -



Second International Symposium on Cumulative Environmental Effects Management: Tools & Approaches

From November 1 to 3, 2000, The Alberta Society of Professional Biologists (AESPb), the Alberta Institute of Agrologists (PAg) and the Association of Professional Biologists of British Columbia (apb), in cooperation with Parks Canada and Canadian Environmental Assessment Agency are hosting the Second International Symposium on Cumulative Environmental Effects Management: Tools & Approaches (CEEM 2000), in Calgary, AB. The symposium is organized in three major sections: Perspectives, Technical Presentations and Case Studies. The goal of the symposium is to provide participants with clear and practical solutions to the management of cumulative effects.

The application of cumulative effects assessment in Canada has seen significant progress in the past decade. However, beyond the assessment of cumulative effects, the implementation of regulatory approvals and environmental management processes requires monitoring and adaptive management. Legal requirements and public needs also affect how cumulative, regional issues are addressed. CEEM 2000 will examine cumulative effects management processes in detail using examples from a variety of development projects. This symposium provides a timely forum for the review and discussion of current issues and initiatives in the management of cumulative effects.

Symposium presentations will cover all stages of the environmental assessment process and will include management ideas applicable to any geographic region or administrative jurisdiction. Presenters will concentrate heavily on real-work experience rather than theoretical approaches.

For more information on CEEM contact

Gavin More, Communications and Registration Coordinator
CEEM 2000 Symposium
Suite 174, 234 - 5149 Country Hills Blvd. NW
Calgary, AB, Canada T3A 5KB
e-mail: 49north@home.com

www.aspb.ab.ca/ceem2000.html

RESEARCH

FORT WALSH NATIONAL HISTORIC SITE LANDSCAPE STUDY: *Factors Underlying a Changing Landscape*

In 1998-99 ecological and cultural resource specialists from the Western Canada Service Centre, conducted a Landscape Literature Review for Fort Walsh National Historic Site. The literature review synthesized existing ecological data and cultural resource information, including drawings, photographs and maps which were needed to facilitate recommendations for producing a Landscape Plan. This information showed that the current land base of Fort Walsh is a site covering at least 4,000 years of human history. The first identified priority of this review is to understand the processes of recent landscape change so that necessary management actions can be taken to control them.

In 1978 cultural features were documented within their environmental setting. This information provided the baseline for identifying processes that affected various cultural and natural features during the intervening years. In 1999 all cultural sites and associated features were revisited, and attempts were made to identify the factors causing change. Observations included:

- vegetation encroachment of certain site areas and along some historic trails;
- overgrazing of some site areas due to the placement and leaching of salt licks causing surface erosion from continual licking;
- impact to some features and alteration of traditional trail use patterns through uncontrolled vehicle use and horseback riding; and

CH HIGHLIGHTS



- site development activities such as road upgrades, construction of a water reservoir, and special event use.

Recommendations regarding use of historic trails, more thoughtful placement of salt licks to control animal use, and guiding current site use can help managers minimize negative effects to the landscape. The ultimate goal is to manage the land in a manner that reflects the thousands of years of people-environmental interactions so visitors can grasp the long term historic use of the site.

*David Hems
David.Hems@pch.gc.ca
Tel: (204)984-5823*

TREATY ONE ORAL HISTORY PROJECT

The Manitoba Field Unit of Parks Canada is currently involved in the Treaty One Oral History Project. Under the direction of project coordinator Evelyn Alexander of the Roseau River First Nation, and with the help of a number of community facilitators, interviews were carried out with elders of the Anishinabe First Nations who were signatory to Treaty One. The goal of the interviews is to gather traditional understandings of the intent and spirit of Treaty One so that the First Nations' perspective can be communicated to Canadians and visitors to Lower Fort Garry National Historic Site (the place where the treaty was made in 1871).

The Treaty One project was organized with the close guidance of the collective leadership of the First Nations to ensure that appropriate cultural protocols were collected. Most of the interviews and 25 hours of video and audio tape material were collected. The results still require vetting though a steering committee comprised of representatives from the six Anishinabe communities involved in the project, as well as the Manitoba Field Unit superintendent, before they can be presented publicly. Even at this early stage, the project has revealed a long and continuing oral tradition regarding treaty rights that is at odds with some aspects of the written historical record. The project demonstrates the fragility of that evidential tradition among First Nations peoples in southern Manitoba.

*Michael Cobus
Manitoba Field Unit, Parks Canada,
Winnipeg.*

EAST GATE REGISTRATION COMPLEX NATIONAL HISTORIC SITE

The East Gate Registration Complex National Historic Site, Riding Mountain National Park (RMNP), consists of the entrance gateway, the Whirlpool warden's station, the gatekeeper's cottage, and the Norgate Road. It is located in a spectacular setting at the foot of the Manitoba Escarpment where the Park forest meets the surrounding farmland. The East Gate Registration Complex was officially designated a National Historic Site in July,

1995, based on excellent craftsmanship, use of local materials, representation of the Tudor rustic architectural style, and the Complex's association with early auto tourism and outdoor recreation. Despite this recognition, relatively little is known about the history of the site.

The purpose of this study is to gain a better understanding of the Complex so that its historic values can be identified, protected, and communicated to the public. To accomplish this goal, research was conducted in the archives, Park files and local collections to obtain the background information and identify gaps in our knowledge. The second component of the project is designed to fill these gaps using information from interviews with individuals from surrounding communities who were involved in the construction of the complex or who worked there as wardens and gate attendants. Scott Henowitch, a seasonal Parks employee and McCreary resident will conduct the interviews. The combination of archival research and oral history will provide Parks with a greater understanding of the site's history and historic value. This knowledge can serve to guide future management and possible development of the East Gate.

*Bruce Hoskins, WCSC, Winnipeg
Tel: (204) 983-0033
e-mail: Bruce_Hoskins@pch.gc.ca*

Stable Carbon Isotopic Analysis of Archaeological Bison Bone

- continued from page 4 -

There have been few isotopic studies of bison bone from mountain and foothill sites, but the values presented here are comparable to those of a study that included bone from southern Alberta, southern Saskatchewan and the Peace River (Chisholm *et al.* 1986). That study concluded that bison in Alberta had moved from the mixed prairie into the parkland, a conclusion that was supported by historical and ecological studies of seasonal bison migration.

Over the next year, I hope to select a number of samples from bison in different sites and from different time periods in BNP. Bison are present in dated archaeological components varying from 10,000 years BP to the historic present, and it may be possible to determine variations in bison diet over time. Some of the WLNP samples used in the preliminary analysis were from well-dated archaeological contexts, but many were from excavations done thirty

years ago, when radiocarbon dating and detailed morphological analysis were not common. Isotopic values from these samples can imply that bison migrated between the xeric grasslands and the mountains, but they cannot determine the precise seasons in which the bison used each vegetation community. A more complete morphological study of the bones might contribute useful information in this regard.

The next step in this study might be to obtain "control" data from contemporary bison that lived their entire lives in the WLNP bison paddock. The isotopic values from these samples would represent a known diet. The isotopic signature of a single season's worth of grazing might also be revealed if we can obtain a single season's worth of bone (perhaps an annual tooth ring) from a juvenile bison of known age. We may even be able to correlate results with actual plant remains trapped in the infundibula of bison molars.

We do not yet understand the past ecology of bison well enough to determine what their role in ecosystem restoration should be. Only archaeological samples can address this issue by examining a free ranging bison population as it was before their near extinction. Analyzing stable carbon isotopes may be an arcane science, but it has advantages in zooarchaeological studies such as this one. The technique increases our understanding of animals and environments of the past. It also requires very small bone fragments, so researchers can revisit known sites and collections without disfiguring the specimens, rather than continuing to search for the perfect new site that will answer all our needs.

*Gwyn Langemann is an Archaeologist in Cultural Resource Services, Western Canada Service Centre, Calgary.
Tel: (403) 292-4692; e-mail:
Gwyn_langemann@pch.gc.ca*

REFERENCES CITED

- Chisholm, Brian, Jonathan Driver, Sylvain Dube, and Henry Schwarcz 1986. Assessment of Prehistoric Bison Foraging and Movement Patterns via Stable-Carbon Isotopic Analysis. *Plains Anthropologist* 31(113):193-205.
- Epp, Henry T. 1988. Way of the Migrant Herds: Dual Dispersion Strategy among Bison. *Plains Anthropologist* 33(121):309-320.
- Tieszen, Larry L. 1994. Stable Isotopes on the Plains: Vegetation Analyses and Diet Determinations. In *Skeletal Biology in the Great Plains: Migration, Warfare, Health, and Subsistence*, edited by Douglas W. Owsley and Richard L. Jantz, pp. 261-282. Smithsonian Institution Press.
- Varney, Tamara L., Brian P. Kooyman, and M. Anne Katzenberg. 1997. Waterton Lakes National Park Late Holocene Bison Population Range Stability Based on Bone Stable Isotope Analysis. Submitted to Waterton Lakes National Park, Alberta. Copies available from Cultural Resource Services, Parks Canada, Western Canada Service Centre, Calgary.

Archaeological Resource Description and Analysis

- continued from page 8 -

Revelstoke and Glacier ARDAs, GIS technology enables a higher degree of spatial visualization and analysis of archaeological site data, and improves predictive modelling of prehistoric and historic land use. GIS-based spatial information about archaeological site distributions helps to determine the archaeological potential and sensitivity of landforms being considered for development in our national parks. Figure 1 is an example of the visual presentation of such information from Waterton Lakes National Park.

Predictive modelling of past land use is based on a sound understanding of the way people used the landscape for resource exploitation and settlement. It considers the effects on human locational behaviour by environmental (i.e., topographic and ecological) variables such as distance to potable water, dominant vegetation, favourable landform and favourable slope and aspect. At present, precontact archaeological site data from the national parks of Alberta and BC is not detailed enough for parks to develop specific models for all site types and time periods. However, current information can be used to identify trends and general

patterns of past land use, with reliable results that can assist parks with both long-term planning and the completion of the Canadian Environmental Assessment Act screening process. In the event that a terrain-disturbing project is proposed for an area within a national park that has not been adequately surveyed for cultural resources, GIS-based modelling can at least indicate whether a tract of land has a low or high probability for archaeological sites (Figure 1).

The ARDA series emphasizes long-term planning and management of cultural resources. Although it meets a variety of management, planning, educational, and research needs, the particular strength of the series lies in its usefulness for trying to reconcile long-term park planning and development with Parks Canada's mandate to manage and protect cultural heritage.

Peter D. Francis, Archaeologist, Cultural Resource Services, Western Canada Service Centre, Parks Canada. Tel: (403) 292-4316 or peter_francis@pch.gc.ca

Microblades and Human Adaptation

in Gwaii Haanas

Martin Magne

A series of archaeological sites with abundant microblade and microblade core assemblages is one of several outstanding discoveries in Gwaii Haanas National Park Reserve and Haida Heritage Site. These sites date from 9300 years before present (BP) to about 7000 BP. Never before have we seen such a west coast concentration of this particular kind of stone tool technology, in which stones were shaped for the production of small, narrow blades (rarely over 3 cm long and about 0.5 cm wide). Archaeologists are using information from these sites to determine why people started making microblades, how microblades were used, and how these and other stone tools relate to the very early settlement and subsistence systems of the NW Coast.

The most revealing site we have to work with is on Richardson Island in the northern end of Gwaii Haanas. At Richardson Island we excavated a "telephone booth" (stepped from 2 x 2 m at the top to 1 x 1 m at the bottom) to a depth of 5 metres, uncovering 55 distinct layers (Figure 1). These layers can be grouped into 17 levels on the basis of sediment characteristics. The layers/levels range in age from 9300 BP at the bottom of the section to 8400 BP at the top. The Richardson Island site is entirely unique on the NW Coast in having this relatively narrow time span, at such an early time, over such a deep accumulation of sediments. In other NW Coast sites, this early period is merely one or two layers at the bottom of shell midden sites, in shallow deposits, or in largely undifferentiated strata. The Richardson Island sequence is particularly important because these layers span a time before microblades (Figure 2) were being used to the initial adoption of microblades (approximately 9000 BP). Other Haida Gwaii sites contain microblades dating to as late as 5000 BP. At Richardson Island patterns in the kinds of tools made before and after 9000 BP should indicate changes in human adaptation to marine environments. Unfortunately the acid soils at the site were not favourable to bone preservation, so we have very little information regarding what fauna were used by these early people.

The Richardson Island site is located about 50 m away from the current shoreline and is about 15 m above the current shoreline, in dense forest. Deep coring of the landform (a small alluvial fan) shows that the site is about 100 m long by about 50 m wide. Our "telephone booth" represents only .03 percent of the site's entire area. This means that sampling bias may be a factor, and since our recovered materials may not be representative of the entire site, all of our interpretations need to be taken cautiously. When the site was first occupied sea level was about 5 to 10 m higher than it is today. Occupations continued as sea level then rose to the level of the site itself. Then, as sea level stabilized (about 9000 BP to 6000 BP), sediments and cultural materials continued to accumulate. Sea levels have since receded to their current level. Interestingly, the sediments show marine diatoms at the same time that microblades first make their appearance, at about 9000 BP, indicating a possible link between the microtechnology and changing marine environments.

The stone tool and tool waste assemblage is abundant. All told we recovered 371 microblades, 23 microblade cores, 485 tools (24 tool and tool fragment types) and fragments, and 5981 pieces of tool waste representing 11 different stone raw materials. This type of abundance across the many layers lends itself well to basic statistical methods. As a simple demonstration of this, the frequency of tools

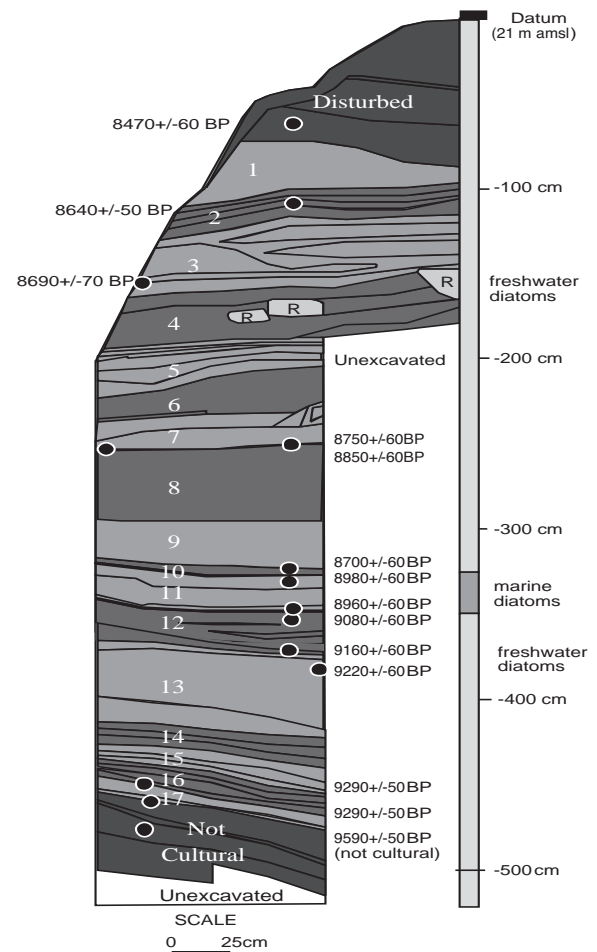


Figure 1. Composite profile of the Richardson Island "telephone booth" excavation units showing complex layering, level assignments, radiocarbon dates and marine incursion layers (● indicates location of radiocarbon sample).

of various types can be correlated with time. For example, as indicated in Figure 3, microblade technology increases strongly through time (Pearson's $r = -0.89$). Bifacial tools (knives shaped on both faces of a stone flake) decline through time (Pearson's $r = 0.76$). Not surprisingly then, microblade technology and bifacial technology are negatively correlated (Pearson's $r = -0.62$). At other sites on the NW coast, microblades and bifaces have been mutually exclusive, leading some researchers to postulate reasons for total replacement of one technology with the other. At Richardson Island we can see that the process is gradual.

The highest correlation is among two types of the larger tools: denticulates and scraper-planes. These are chunky unifacial tools that have heavy wear along their edges, the denticulates with sharp protrusions (Figure 2). A correlation of 0.90 indicates that these tools are almost always found together. Furthermore, they are more common in the lower levels, along with spokeshaves (tools used to form objects such as spearshafts) and graters (tools used to score or

- continued on page 16 -

François Beaulieu

A specific Agenda Paper on Métis leader François Beaulieu, prepared by Chris Hanks, was also submitted to the HSMBC for consideration at the November, 1999 meeting. Also known as Le Patriarche, Chipewyan Halfbreed Chief and Dean of the French Métis in the Canadian North, François Beaulieu was one of the founding fathers of the Métis in the Northwest Territories. Beaulieu's ancestor made his way to the Athabasca-Mackenzie region after the collapse of the French fur trade in 1760 and preceded the arrival of the Montréal-based English traders in 1778. François Beaulieu II (to distinguish him from his voyageur father), was a great Métis leader who forged kinship ties with the Chipewyan, Yellowknife, Dogrib, Hare and Slavey Aboriginal Peoples and was recognized as a “Chief.” Equally proud of his *coureur de bois* Canadian heritage, he declared to Father Petitot in 1863: “I am a Métis...born and bred...like a pure Indian...but I am also a son of France.” He founded the Salt River community on Slave river which he governed like a seigneur and pursued a mixed economy as hunter, trader, farmer, interpreter and entrepreneur. Beaulieu also worked for the North West Company and later the Hudson's Bay Company but always as “his own boss.” He was gifted with *inkonze*, the Dene spiritual powers or “medicine” of his maternal ancestors and he embraced and promoted the Roman Catholic faith of his father, blending and adapting the two traditions. A gifted orator and linguist, he taught Chipewyan to Bishop Grandin and told his life story to Father Petitot. By the time of his death in 1872, the proud, generous and indomitable Métis leader was the head of a fur trading empire that challenged the Hudson's Bay Company and ensured an economic base for the Métis in the Mackenzie Basin in the 19th century, and their persistence as a people into the 20th century. Beaulieu has an enduring legacy and the Salt River First Nation and the Fort Smith Métis Local have agreed to work together to commemorate him at Salt River.

The Northern Métis history project has enabled Parks Canada to establish an on-going working relationship with the Métis. Research projects such as the thematic history, *Picking up the Threads*, and the specific study on François Beaulieu, illustrate Métis perspectives of history and the overall significance of family history. Proposed commemorative activities for the next few years include oral history with Beaulieu descendants, the publication of a completed edition of *Picking up the Threads* and specific research on other persons, places and events of potential national historic significance.

Diane P. Payment

Picking Up the Threads is a 300 page thematic history of the Métis in the Mackenzie Basin that researchers hope will lay the groundwork for on-going study of the Northern Métis. It is a response to Parks Canada's commitment to address the issue of Métis commemoration in the North and to provide balance and broader perspectives for Northern Aboriginal commemoration.

The Northern Métis history project dates back to 1989 when the Historic Sites and Monuments Board of Canada (HSMBC) recommended that the National Historic Sites program develop thematic or cultural history frameworks to identify sites of potential significance to the Dene-Métis. Subsequent HSMBC Agenda Papers (Goldring1990-03; Goldring and Hanks1991-13) resulted in Dene commemorative projects, some with a clear Métis contribution, but Métis history was largely forgotten or submerged into the history of the Dene, northern Cree and Eurocanadians.

In the early 1990s, anthropologist Chris Hanks of the Yellowknife New Parks Establishment office, and this author, a Métis historian in Prairie and Northwest Territories region, approached the local Métis Heritage Association (MHA), Métis communities and the National Historic Sites Directorate regarding the inappropriateness of treating Métis and Dene cultural histories as one. Gary Bohnet, president of the MHA argued that while many Métis in the Northwest Territories were closely related to the Dene, the two groups are culturally distinct and require separate historical treatments. An on-going collaboration between Parks Canada and MHA culminated in a thematic history, *Picking up the Threads: Métis History in the Mackenzie Basin* in 1998 (Parks Canada, MHA, 1998). The study will serve as an initial framework for Métis commemorations in the Northwest Territories.

Picking up the Threads, funded under the Canada-Northwest Territories Language Agreement in 1995-97, was originally to be written by a single author contracted by MHA with the advice and support of a Parks Canada co-ordinator. However, time constraints and the complexity and scope of the study resulted in a re-profiling of the project in 1997. Nine themes were assigned to individual authors, both Métis and non-Métis, drawing upon both community and academic expertise.¹ As the title suggests, *Picking up the Threads* is the first attempt at a comprehensive overview of the history of the Métis north of 60, more specifically the Mackenzie Basin. This study traces the origins and diversity of the Métis in the region, their connections with other homelands in the south, and their relationships with fur traders, missionaries and government agencies. *Picking up the Threads* addresses the specific contributions of women, the crucial role of the Métis in transportation on the Mackenzie River, and other important social and economic achievements up to the 1940s. The study does not include the post-1950 period, during which a distinct Métis political identity emerged in the Northwest Territories. The MHA considers filling this gap essential to acquire a “total,” or comprehensive, Métis history. Compared to other Aboriginal Peoples, the history of the “New Nation” of the Northwest Territories deals with the more recent

¹ The chapter titles and authors are: 1. “The First Northern Métis” by Marina Devine; 4. “Northern Métis and the Churches” by Martha McCarthy; 5. “Missing from History: by Andrea Zubko and David Leonard; 8. “Métis of the Mackenzie Delta” by Valerie

Picking Up the Threads”

Métis History in the North

or historic past, and the Métis particularly value their contemporary history which is marked by renewal and the search for self-determination.

Picking up the Threads identified key aspects or distinctive characteristics of Northern Métis history. The complexity of Métis origins comes to the fore in the Northwest Territories. Métis inhabiting the territory north of 60, also called the Far Northwest, are an Aboriginal people indigenous to the regions since the mid-18th century. They became a distinct group as a result of customary marriages (*à la façon du pays*) between French Canadian (Canadien) voyageurs and primarily Dene and Cree women. A people in motion, they had early family and trade ties with Métis peoples of the Great Lakes, Red River and northern regions of present-day Saskatchewan and Alberta. In the post-1821 period, after the merger of the North West Company and the Hudson’s Bay Company, an increasing number of fur trade employees of British ancestry came north and intermarried with the Gwich’in (the Dene of the Delta or Lower Mackenzie River), founding families historically referred to as “Halfbreed.” Some of the ancestors of the Métis in the Delta arrived in the North much later, in the late 19th and early 20th centuries. However, the boundaries between the Métis peoples, whether geographical, cultural or religious, were fluid and the use of terms “northern” and “southern” Métis in reference to the North is a very broad generalization. Travel and intermarriage between the two groups further blurred these divisions.

The Métis peoples of Canada share a mixed heritage and cultural traditions, such as a focus on family, kinship networks, a special relationship to the land and its resources, and a tradition of political

resistance and activism. However, regional and community histories also delineate a fundamental theme of Métis history — the diversity of experience. Each Métis community has a unique history and a specific cultural background. This distinctiveness was demonstrated

in the various submissions to the Royal Commission on Aboriginal Peoples, “Métis Perspectives” (Royal Commission on Aboriginal Peoples 1996). Too often in the past there has been a tendency to generalize about Métis groups and to identify all communities in the Northwest as somehow derivative of the comparatively well-known and romanticized “Red River Métis.” Tracing the emergence of the Northern Métis as a distinct people or “Nation” is complicated by the fact that the earliest individuals of mixed Aboriginal and non-Aboriginal heritage were not always identified as Métis. Over time, the Northern Métis also came to include many other people of mixed ancestry, such as Dene and Cree individuals and families who had lost or given up their legal status as “Indians.”

Today, a person’s identification as a Northern Métis is to some degree a matter of individual choice, as well as a result of culture, politics and history. Important distinguishing factors of “Métisness” in the North are a distinct culture inextricably linked to their relatives and

neighbours, the Dene, and the history of a Métis people playing key roles in Eurocanadian exploration, fur trade and Christianization. Today, Métis in the North view themselves more as “bush people” than their southern compatriots on the Prairies. Northern Métis are

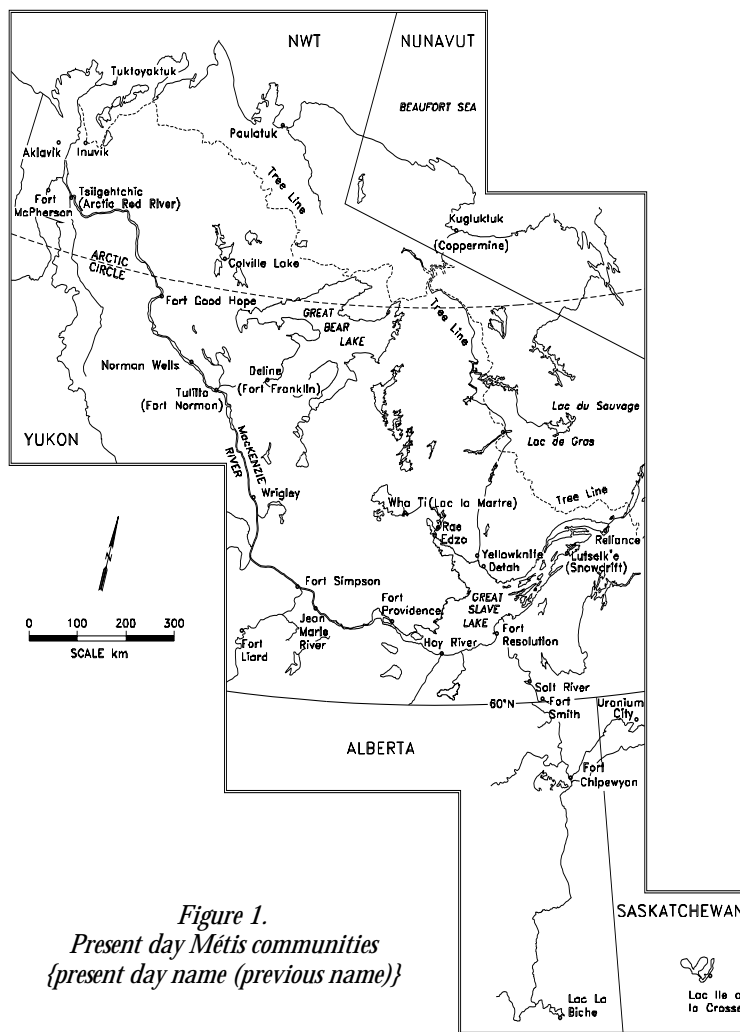


Figure 1.
Present day Métis communities
{present day name (previous name)}

- continued on page 20 -

2. “Northern Métis and the Fur Trade” by Jennifer Bellman and Chris Hanks; 3. “Métis People in Motion From Red River to the Mackenzie Basin” by Diane Payment; 4. “Métis Women in the Mackenzie Basin” by Nathalie Kermaol; 6. “Northern Métis and the Treaties” by Patricia McCormack; 7. “Northern Métis and Transportation” by Furlong and Sandra Dolan; and 9. “Northern Métis in the World War II Era” by Sanda Dolan.

Microblades and Human Adaptation

- continued from page 13 -

bore through materials), which are usually much smaller tools. The denticulates and scraper-planes are heavy-duty woodworking implements, used as adzes, chisels and rasps, while the spokeshaves and gravers are for finer work such as rounding edges and boring holes. These tools are found in the upper levels, but in much lower frequencies, whereas microblades become abundant.

Microblades are delicate tools, suited for fine cutting and scraping, perhaps on barks and hides and perhaps for cutting fish, but not for heavy woodworking. We can infer from these patterns that woodworking was a more important feature of the subsistence system at this location until such time as sea level reached its peak of 15 m higher than it is today, and then finer materials were more commonly manipulated. We do not know for certain why this might have happened. Certainly a 15 m rise in sea level over only 300 years, or for that matter, the general rise in sea level of 150 m over 2000 years, would have had a substantial effect on flora and fauna. The forests that had existed were nearly completely flooded, leaving far less useful wood, perhaps requiring people to change their shelter and clothing adaptations to hides, bark, and other materials. Another possibility is that stabilizing sea levels between 9000 BP and 6000 BP allowed exploitation of new marine resources such as salmon, that could be better processed using blade tools, as opposed to rock fish and marine mammals, that might require more rugged tools.

Another clue to this possible shift is in the types of stones gathered for toolmaking. In the pre-microblade levels a hard black and white metamorphic rock that has thick flat bedding planes is most abundant (32% to 71% of the tools) then in the later levels the most abundant rock is a fine grained but softer argillite (34% to 86% of the tools). In fact, the increase in use of the fine argillites is almost perfectly linear and nearly all of the microblades are made of this material. The rarer types of stone such as cherts and chalcedonies are not present at all in the tool wastes of the seven pre-microblade levels. The pattern is a definite increased diversity

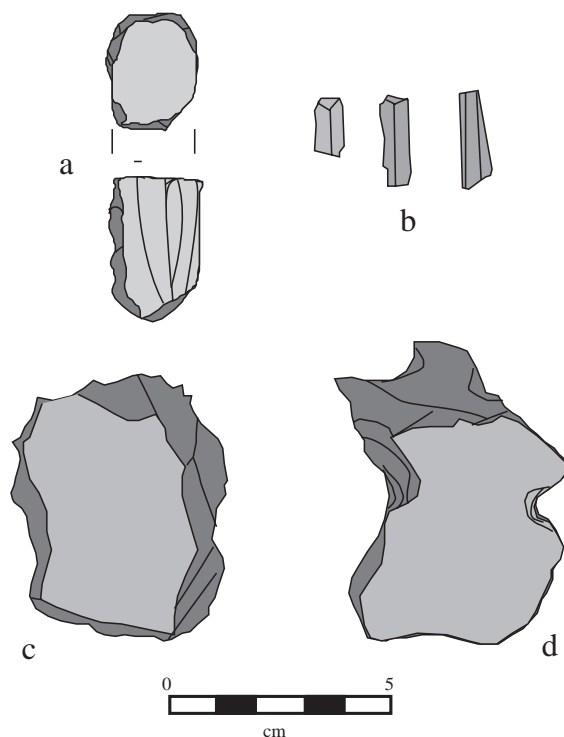


Figure 2. a - Microblade core; b - microblades; c - denticulate; and d - spokeshave from Richardson Island

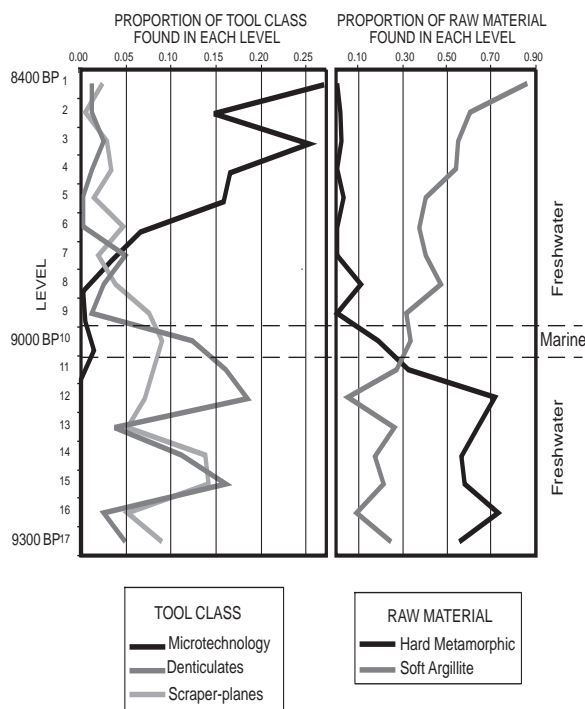


Figure 3. Selected tool classes and stone raw material types through time at Richardson Island.

of stones used through time, showing that people were either moving greater distances and finding new rock sources, or that they were forced to use a wider variety of rocks once their usual sources were covered by rising seas.

These patterns reflect a situation forced upon the inhabitants. Sea level was rising rapidly and they had to forage over increasingly greater distances, at higher elevations, while the total land mass available to them was shrinking rapidly. Beaches and intertidal areas first became much smaller then would have grown somewhat when sea levels stabilized. At the same time people would have had a greater reliance on water transport (although they probably had boats since colonizing the west coast) forcing a more mobile subsistence pattern until sea level and resource distributions stabilized somewhat. At this stage of analysis, these patterns are robust, yet require testing against other sites of slightly later ages. Continuation of the trends apparent at Richardson Island at other locations would support the notion that microtechnology is an adaptation tied to rapid and profound changes to the ways people earned their living. Given a lack of faunal material and other organics, we cannot make more precise descriptions of those adaptations. What is fascinating about the Richardson sequence, and what makes it so different from any other NW Coast site of this age, is that the time intervals over which the change in tool types took place—25 to 50 years—reveal change that reflects conscious decision making at the generational scale. The inhabitants and their descendents were likely able to remember what happened when seas were rising 10 cm per year, and were able to find solutions. We are now closer to understanding how microblade technology was a part of that solution. Furthermore these results will help us grasp the meaning of the advent and continuance of microblades throughout the northwest.

Martin Magne is Manager, Cultural Resource Services, Western Canada Service Centre, Calgary. Tel: (403)292-6080; e-mail: Marty_Magne@pch.g.c.ca

1999 *ts'ishaa* Archaeology Project

Pacific Rim National Park Reserve

Ian Sumpter

A proposed two-year archaeological excavation project on Benson Island in Pacific Rim National Park was started during the summer of 1999. The exploratory excavation took place at the village of *ts'ishaa* (Pronounced "she-sha-a"), the founding place of the Tseshaht First Nation. All partners—Tseshaht First Nation, Parks Canada, and the province of BC—view the project as an excellent opportunity to enhance our understanding and interpretation of the long and fascinating cultural history of the Tseshaht people and the Barkley Sound area. The recovered data will greatly assist the park in educating staff and the general public. For the Tseshaht, the archaeology project represents a significant vehicle in which to provide training for their youth and other Nuu-chah-nulth people. Denis St. Claire, heritage consultant, and Alan McMillan, Douglas College, directed the project.

The archaeological site of *ts'ishaa* is comprised of a large, flat-topped midden deposit rich in discarded marine shell, vertebrate fauna bone, fire-cracked rock, and ash. The site represents a wide range of cultural activity including, a major village settlement, food processing, and refuse disposal. The midden deposit is approximately 200 m long by 85 m wide. In 1999, archaeologists dug a 2 m x 10 m trench near the middle of the village midden, at a spot thought to be the former living area of a high-status family. Excavations in such places often yield cultural deposits bearing numerous artifacts, cultural features and food remains that reflect evidence for social importance. Excavations were terminated at the base of the shell-rich deposit, approximately 4 m below ground surface.

For the amount of earth excavated, artifact and vertebrate faunal assemblages were disappointingly small in comparison to nearby sites on the western shoreline of Barkley Sound. However, loosely compacted marine shell was recovered in large quantities. Only 150 artifacts were found — the majority made exclusively from bone, but some tools were manufactured of ground stone or mussel shell. The uncharacteristically low bone assemblage included remains of fish, sea mammal, land mammal, and bird. It was noted that as the depth of excavation increased, more fauna material including concentrations of larger

sea mammals were encountered. Initial impressions indicate that fish and sea mammal bones predominate. Major shellfish species included California mussel, butter clam, horse clam, and barnacle.

The results obtained in this first year of research indicate that the 1999 trench was not placed in a former house site, but more likely a village dump zone. Nevertheless, the project had many positive experiences: training Nuu-chah-nulth youth in basic excavation techniques, recognition and identification of cultural materials and sediments; sharing archaeological and ethnographic interpretations with team members, site visitors, and media; heightening the public's awareness and appreciation of Tseshaht cultural history; and witnessing Tseshaht elders and youth reestablish contact with *ts'ishaa*, their birth place. At present the Tseshaht First Nation are planning a second field season of excavation at *ts'ishaa* village in 2000 in order to obtain a larger number of artifacts and faunal remains. It is proposed that future testing will explore considerably deeper deposits north of this year's excavation. The next excavation may be older, more intensely used, or perhaps yield material remains indicative of higher social status than this year's excavation. Radio-carbon dates collected from the base of the midden indicate that some areas on-site were occupied as early as 1860 to 2175 years before present. These areas warrant exploration to improve our understanding and interpretation of this significant village.

Ian Sumpter is an assistant archaeologist, Cultural Resource Services WCSC, Victoria. Tel: 250-363-0578; ian_sumpter@pch.gc.ca

Excavation of 2x10m trench in progress, ts'ishaa village midden, Benson Island. Note extensive shoring system to eliminate potential for wall slumpage.



Six Nuu-chah-nulth archaeology trainees on 1999 Benson Island archaeology project. Individuals represent Tseshaht, Ucluelet, and Ditidaht First Nations.

TSESHAHT HISTORY

Oral histories state that the Tseshaht were once among a small number of Nuu-chah-nulth¹ groups whose traditional territories encompassed the islands in the park's Broken Group Islands Unit. *Ts'ishaa*, means "a rancid smell," in reference to the stench of decaying whale carcasses caught by the village's skilled whalers. Once boasting a large population, *ts'ishaa* was occupied year-round by the Tseshaht peoples until the early 1800s, at which time they moved off Benson Island to more protected shores inside the sound. Oral histories passed down from one generation to the next claim that prior to their moving, Tseshaht families inhabited *ts'ishaa* for several millennia. The Tseshaht peoples now live in the town of Port Alberni, 25 km up Alberni Canal, closer to schools, jobs, and the conveniences and comforts of a larger community.



¹The Nuu-chah-nulth, loosely translated as "all along the mountains," is a collective term for 13 tribal groups or "bands" originating and still living along the W. coast of Vancouver Island. To the south, are the culturally and linguistically related Ditidaht and Makah (the latter living on adjacent Olympic Peninsula).

The Vanishing Past

Erosion at the Lake Minnewanka Site

Alison Landals

The Lake Minnewanka site in Banff National Park has long been known to contain a highly significant archaeological record. Until recently it was believed that the context of the site had been destroyed as a result of flooding following dam construction during the Second World War. Recent research has demonstrated that although much of the significant precontact record has been lost, small pockets of the site's sedimentary profile remain intact, despite over fifty years of annual flooding and erosion. These intact areas contain archaeological material relating to the earliest human occupation of Banff National Park, immediately following deglaciation, in excess of 10,000 years before present (BP). The early age of the site and its location relative to the proposed "Ice-free Corridor," believed by many archaeologists to be the route for the first peopling of the Americas, make the recent discoveries at Lake Minnewanka of considerable theoretical interest. Figure 1 illustrates the approximate location of the proposed corridor relative to the ice sheets. Unfortunately, the ongoing processes of erosion as a result of normal reservoir operation continue to threaten the intact portion of the site, which may be completely destroyed within the next 20 years.

Archaeological excavation has begun in an attempt to mitigate the loss of important scientific data and provide direction for better site management.

SETTING AND SITE HISTORY

The site is located on a landform that was once a high, bedrock-bounded glaciolacustrine terrace overlooking the Cascade valley and the western (outlet) end of the original Lake Minnewanka. Today, the Cascade watershed provides key habitat for big horn sheep, elk, mule deer and carnivores. Climatic conditions varied in the past. Following the retreat of glacial ice, the lower Bow River valley became available for human occupation sometime prior to 11,500 BP (Fedje and White

1988). Evidence from the Vermilion Lakes site suggests that between 11,000 and 10,000 BP the climate in the Bow Valley was both cooler and drier than modern conditions. These conditions lowered the tree line and expanded the range for big horn sheep and caribou, with a concomitant loss of Montane habitat favoured by bison (Fedje *et al.* 1995). For the earliest inhabitants of Banff National Park, bighorn sheep were

reservoir filling, the Lake Minnewanka site was catastrophically impacted by water and ice that destroyed most of the primary context of the archaeological material at the site.

The extant portion of the site is located within the current annual shoreline fluctuation zone. The lake fills to its highest level in early to mid June as a result of seasonal snowmelt and precipitation.

Water is released gradually throughout the year by TransAlta Utilities Corporation, and the lake freezes in late fall. In the spring a thick ice pan covers the site, which typically melts by mid May. Although yearly variation in snow pack, precipitation and temperature can be considerable, in an average year, the site is exposed as a broad sandy beach for three to four weeks each spring, providing a brief

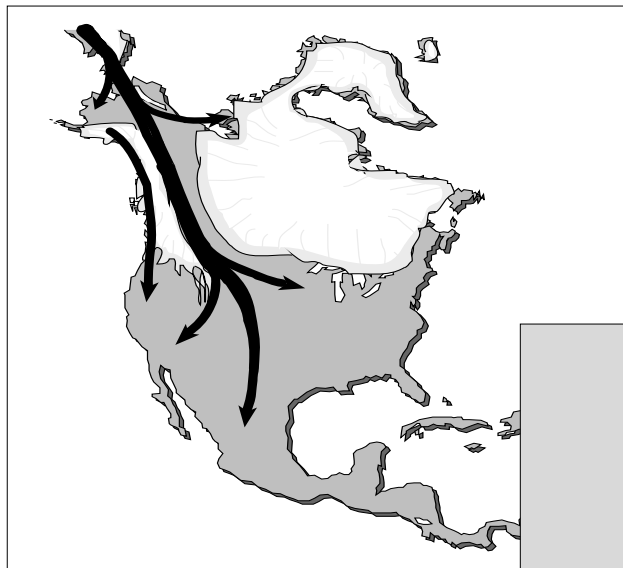


Figure 1. Theoretical migration route across Beringia, the land bridge between Siberia and Alaska, during glaciation of North America.

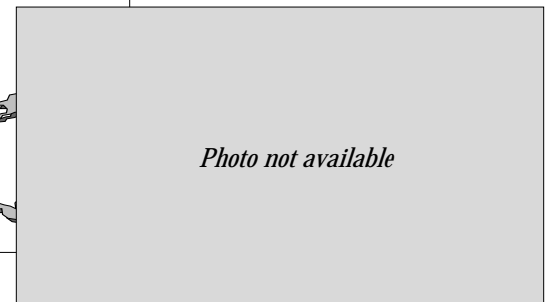


Figure 2. Excavations in progress, May 1999

probably a crucial species. The Lake Minnewanka site was ideally situated relative to this prey species in the early post-glacial period.

Water control measures were implemented in the Lake Minnewanka area soon after European settlement. In 1895 a small wooden dam was constructed, although its flooding was quite limited. In 1912 a larger dam was constructed on the Cascade River, raising the level of Lake Minnewanka by approximately five meters. A large number of archaeological sites were probably destroyed at this time, however the current Lake Minnewanka site was still well above the water level. In 1941, Calgary Power commenced construction of a larger dam on the Cascade, which raised the water level by approximately 20 m. Because of

window of opportunity for archaeological excavations. Deep excavation is possible only for as long as the lake level remains low. The intact archaeological deposits are located in former low swales which were in-filled and capped by sediments during the initial few years following reservoir filling.

PREVIOUS RESEARCH

Initial work at the site consisted of surface collection of thousands of disturbed artifacts and was conducted by archaeologists from the University of Calgary (Christensen 1971, McIntyre and Reeves 1975). Diagnostic projectile points spanning the entire range of human occupation in North America, from the

The Vanishing Past

- continued -

earliest (Clovis) to latest (Fur Trade) times were retrieved from the beach. Clovis spear points are highly distinctive because of a unique hafting modification. These stone tools are the earliest known style of weaponry in the new world. Although deep testing was undertaken subsequent to surface collection, no artifacts were identified in undisturbed context, and it was believed that the primary scientific value of the site was destroyed. In 1983, Parks Canada archaeologist Daryl Fedje revisited the site. Fedje discovered a significant surface exposure of intact soil that had been exposed by erosion since the previous work, and collected an additional Clovis point from eroded context. Ten years later, TransAlta Utilities funded an excavation program at the site in conjunction with their licence renewal for the Cascade Hydro facility. This work program emphasized deep testing in an area of the site where considerable erosion had occurred since the mid 1970's. One small pocket of intact cultural material was eventually identified (Landals 1994), but unfortunately no time diagnostic artifacts or material suitable for radiocarbon dating was discovered in association with this material, and its antiquity remains speculative.

CURRENT RESEARCH

The current research program was initiated by Parks Canada in the spring of 1997, in response to the ongoing threat of erosion at the site. These studies were necessary to pinpoint both the age and extent of the intact deposits and to evaluate the degree of threat to these deposits. I opened a small excavation block in the intact area of the site first identified in 1993. The degree of erosion since that time was surprisingly high, considering that the area had previously remained intact for over 50 years. Cultural material which was buried and undisturbed five years previously was now clearly visible on the surface. The pattern of erosion at the site is complex and constantly changing. As one area of the beach scours slowly down to the level of more resistant glacial till or bedrock, a chain reaction can occur in which lateral erosion quickly shifts and begins to impact previously protected areas.

The 1997 excavation revealed an area

classified as a lithic workshop. It appeared that in this area precontact hunters collected large nodules of silicified siltstone and reduced them through several stages to large discoidal cores. The cores were then removed for further reduction into finished tools at another location. Unfortunately, this part of the site appeared to be used for little else. No hearths or bone fragments were present, nor were any time diagnostic artifacts such as spear heads left behind, which made dating the artifacts problematic.

The 1998 field season was designed to test a larger area of the intact portion of the site, to identify other activity areas and to better document the extent of erosion. Extremely warm temperatures combined with near incessant record precipitation severely curtailed the window of opportunity, however several additional deep concentrations of artifacts in deep, narrow shovel tests, and the pattern of erosion was clarified.

In the spring of 1999, a major joint excavation was undertaken at the site. Parks Canada staff archaeologists combined efforts with students from the University of Calgary archaeological field school to investigate 3 previously unknown areas of the site (Figure 2). Due to a very late runoff, it was possible to excavate 2 of the three blocks to over 1 m deep (totalling 15 m²). We discovered a minimum of 4 stratigraphically distinct occupations containing evidence for a broader spectrum of composite activities. Three distinctive hearth features, surrounded by a wide variety of different tools and artifact types were revealed. The preservation of faunal material in the deep levels at the site was of great interest. Bison, small fur-bearing animals, and big horn sheep considerably larger than the modern species were represented. A complete projectile point, very similar to specimens from the Vermilion Lakes site, was recovered in the uppermost level in association with a piece of bison bone radiocarbon dated to 9990±50 BP. Below this level, the base of a projectile point preform was found in association with another hearth. This projectile point bears strong similarities to artifacts associated with the Clovis culture (the earliest known occupants of North America). Bone from this layer was radiocarbon dated at

10,370 ± 60 years BP. Two lower occupation levels remain undated due to problems with the radiocarbon samples, but these may be dated with future work at this site.

Researchers continue to analyze the material recovered in 1999. Considering the small sample obtained to date from the intact area, it is clear that the Lake Minnewanka site is of major scientific significance. Although the Lake Minnewanka site is not as finely stratified as the Vermilion Lakes site, it appears at least as old, if not older. Sites of this age are extremely rare in North America, and it is very unfortunate that the integrity of the remaining deposits is severely threatened. Management of this rare and unique site over the coming years will continue to be a challenge for Parks Canada. Further archaeological excavation is a potential management option.

Alison Landals is a graduate student at The University of Calgary, Calgary, Alberta. Fax 403-282-9567; e-mail: ajlandal@ucalgary.ca

REFERENCES CITED

- Christensen, O. 1971.* Banff Prehistory: Prehistoric Settlement and Subsistence in Banff National Park. Manuscript Report Series 67, National Historic Sites Service, Ottawa.
- Fedje, D.W. and J.M. White. 1988.* Vermilion Lakes Archaeology and Paleocology: Trans-Canada Highway Mitigation in Banff National Park. Microfiche Report Series 463, Environment Canada, Parks Service, Ottawa.
- Fedje, D.W., J.M. White, M.C. Wilson, D.E. Nelson, J.S. Vogel and J.R. Southon. 1995.* Vermilion Lakes Site: Adaptations and Environments in the Canadian Rockies During the Latest Pleistocene and Early Holocene. *American Antiquity*, 60 (1).
- Landals, A.J. 1994.* Cultural Resources Mitigation Program TransAlta Utilities Corporation Cascade Hydro Facilities Licence Renewal Lake Minnewanka Study. Consultant's Report on file, Parks Canada, Calgary.
- McIntyre, M. and B.O.K. Reeves. 1975.* Archaeological Investigations: Lake Minnewanka Site (EhPu 1). Consultant's report on file, Parks Canada, Calgary.

"Picking Up the Threads"

- continued from page 15 -

Photo not available

*Fisher Gaudet Family, Fort Good Hope, NT.
c. 1908*

*Front (L-R): Father Charles-Philippe Gaudet with
grandson Frédéric-Alexandre, Mother Marie Fisher
Gaudet, Dora. Back (L-R): Isabelle (Bella), Léon,
Frédéric-Charles, Cecilia.*

*Photo: Provincial Archives of Alberta, Oblats de
Marie-Immaculée Collection 11144*

Photo not available

*Métis Elders at a workshop, Yellowknife, March 1996
Photo: Parks Canada*

Taupier Houle and Marie Fisher Gaudet are women whose achievements might be of national significance and require further research.

RELATED READING

The first local publication relating to Métis in the Northwest Territories was in 1976 when the Métis Association commissioned *Our Métis Heritage: A Portrayal* (Overvold 1976). This richly illustrated book was based primarily on oral

also in the unique situation of negotiating land and resource agreements, in some cases with and at other times separately from, the Dene. They are the beneficiaries of the same health care services and other Aboriginal rights as the Dene and Inuit. In the North, Métis rights co-exist with other Aboriginal Peoples' rights.

The Northern Métis history project has resulted in the submission of an Executive Summary of Picking up the Threads to the HSMBC (Payment, 1999). Based on consultations with the Métis Heritage Association, a number of the summary's recommendations were tabled with the Board. The recommendations stress the importance of the Mackenzie River as the Métis voyageur highway in the North, and identify of five places of particular significance to the Métis of the Mackenzie Basin: Salt River (near Fort Smith), associated with the early Métis leader François Beaulieu; Old Fort Point (near Fort Norman), a Métis freemen trade and settlement site dating back to the early 19th century period of rivalry between Montréal-based fur traders; Old Fort Rae, associated with Métis fur trade activities in conjunction with the Hudson's Bay Company; Pokiak Channel (near Aklavik), a 20th century Métis community associated with steamboat transportation, trapping and trading; and Hay River West Channel where Métis fishermen provided the labour for commercial fisheries since the 1940s. The Métis also played key roles as brokers in Treaties 8 and 11 and as river pilots on the SS Distributor which travelled the Mackenzie River between 1918 and 1947. The specific contributions of Métis women, who played a major role in Métis society and economy and remain central to the survival and transmission of culture, were also highlighted. Catherine Beaulieu Bouvier, Élise

history interviews conducted with elders in the mid- to late-1970s. The Métis Heritage Association (MHA), established in 1988, carried out a number of initiatives, among them the Oral Traditions projects that involved interviews with elders in Métis communities such as Fort Norman, Fort Resolution and Fort Smith; the Tulu project, which recorded 130 traditional sites along the Mackenzie River, referred to by the Métis as the Tulu and the Great River (la Grande Rivière), and a number of videos and publications relating to Métis life and culture. A Métis Elders Workshop was held in March 1996, in conjunction with the Parks Canada-MHA thematic history. The participants identified and discussed important themes relating to Métis in the North and talked "about the good old days." Elders accounts were also recorded during a trip along the Mackenzie River on the Norweta in the Summer of 1996. The testimonies and visual materials collected in the course of these projects provided invaluable information for *Picking up the Threads*. Other important sources were family histories and biographies such as Ted Trindell: Métis Witness to the North (Morisset & Pelletier, 1987) and Living Kindness: The Dream of My Life, and The Memoirs of Madeline [Mercredi] Bird (Bird & Sutherland, 1991). Some research was carried out in key archival collections such as the Hudson's Bay Company and the Oblate missionary records.

Diane Payment is an Historian in Cultural Resource Services, Parks Canada, Western Canada Service Centre, Winnipeg. Tel: (204)983-2915; Fax:(204)983-8187; e-mail: Diane_Payment@pch.gc.ca

REFERENCES CITED

Goldring, P. 1990. Commemoration of Northern Native History, HSMBC, Agenda Paper No. A03.

Goldring, P. and C. Hanks. 1991. Commemoration of Northern Native History, HSMBC, Agenda Paper No. 13.

Hanks, C. 1999. François Beaulieu II: Son of the Last Coureur de Bois in the Far Northwest. HSMBC, Agenda Paper (November).

Métis Heritage Association of the Northwest Territories and Parks Canada. 1999. Picking up the Threads: Métis History in the Mackenzie Basin. Manuscript Report.

Overvold (Barnaby), J. Ed. 1976. Our Metis Heritage: A Portrayal. Yellowknife, Metis Association of the Northwest Territories.

Payment, D. P. 1999. Executive Summary of Picking up the Threads: Métis History in the Mackenzie Basin, HSMBC, Agenda Paper (November).

Report of the Royal Commission on Aboriginal Peoples. 1996. Métis Perspectives, Chapter V. Ottawa, Queen's Printer.

The Bare Bones of Ranch History

- continued from page 5 -

domestic cow.

The variety of species and cuts of meat demonstrated in the archaeological record at this site is not surprising. Experienced and reliable cowhands could be hard to find and keep. Managers wanted to make their ranch attractive without incurring high overhead, and a good cook with a respectable menu was a draw (Frank White Diaries, Glenbow Archives, Glenbow-Alberta Institute, Calgary). This variety is also supported historically. For example, a dictionary written in the 1940's about the language of the "range" documents several surprises, such as *trapper's butter*, animal marrow or a concoction of boiled animal marrow and blood. Another example was *son-of-a-bitch stew*, known alternatively as

district attorney. This dish was a favourite of cowboys and consisted of the brains, sweetbreads, and various organs of a freshly killed calf (Adams 1944: 149 and 169). The requisite meat would have been complimented by staples and other trimmings, as documented by the following portion of a yearly inventory of the Walrond Ranch on December 31st, 1892 (Walrond Ranch Papers, Glenbow Archives, Glenbow-Alberta Institute, Calgary):

...3 sacks flour, 10 lb. beans, 10 lb. Sago (a starch), 10 lb. bacon, 1 gal. pickles, 50 lb. coffee, 18 lb. tea, 10 lb. apples, 25 lb. peaches, 25 lb. apricots, 15 lb. corn meal, 10 lb. rice, 12 boxes corn starch, 40 lb. soap, 10 lb. lard, 1 - gallon syrup, 25 lb. coarse salt, 1 gallon vinegar, 200 lb. sugar,

10 lb. currants, 3 boxes lemon extract, 1 box vanilla, 1 lb. pepper, 2 boxes yeast, 10 lb. salt...

My thesis, scheduled for completion in 2000, will address the day-to-day life of the cowhands on the Bar U Ranch in the historic period. What role did the authority, pay, and residence hierarchy play in food consumption patterns? How does understanding the day-to-day lives of these men help us interpret activities at ranches, like the Bar U, that helped to form the social and political landscapes of southern Alberta?

Kristi Benson is a Masters student at the University of Calgary, Dep't of Archaeology. e-mail: kabenson@acs.ucalgary.ca

REFERENCES CITED

- Adams, Ramon F. 1944.* Western Words: A dictionary of the range, cow camp and trail. Norman: University of Oklahoma Press.
- Benson, Kristi. 1999.* From "Ranche Houses" to "Bunkhouses": Cattle Range Inequality on Early Corporate Ranches in Canada's Northwest 1882-1914. Unpublished manuscript prepared for HIST 523, University Of Calgary.
- Evans, Simon. 1994.* Story Line: Bar U Ranch, National Historic Site. Parks Canada.
- Frank White Diaries, Glenbow Archives, Glenbow-Alberta Institute, Calgary, AB.
- Palmer, Howard with Tamara Palmer. 1990.* Alberta A New History. Edmonton: Hurtig Publishers.
- Schultz, Peter D. and Sherri M. Gust. 1983.* "Relative Beef Cut Prices in the Late Nineteenth Century: A Note for Historic Sites Faunal Analysis." Pacific Coast Archaeological Society Quarterly 19:1 pp. 12-18.
- Walrond Ranch Papers, Glenbow Archives, Calgary, AB.

Built Heritage Resource Description and Analysis

- continued from page 9 -

Not all BHRDAs have an area perspective. In some cases buildings are examined functionally. Backcountry buildings such as warden cabins, bungalow camps, fire lookouts, and campground buildings are scattered over wide areas in the national parks, yet share historical and architectural influences common to the particular building type. Buildings such as these are best surveyed and evaluated by building type. We are seeing some movement in this direction with completed studies of Outlying Commercial Accommodations (MacDonald, 1994) and Yoho Fire Lookouts (Taylor, 1998.)

The BHRDA approach is an effective method of treating historic architecture in the national parks, and it fits well with the practices of inventory and evaluation stipulated in the 1994 Parks Canada *Cultural Resource Management Policy*. Moreover, studies of townsites, cottage communities, fire lookouts, bungalow camps, and the like have increased our understanding of the human history of the national parks. The importance of histories, descriptions and evaluations found in the BHRDA reports has been recognized by park planners and managers who use the timely background material and articulations of traditional values to develop informed

solutions to current issues. The BHRDAs have won institutional acceptance, being mentioned in management plans and The 1997 *State of the Parks Report*.

C.J. Taylor is an Historian, Western Canada Service Centre, Calgary. Tel: (403) 292-4470, e-mail: Jim_Taylor@pch.gc.ca

REFERENCES CITED

- MacDonald, G. 1994.* The alpine architectural heritage of the Four Mountain Parks: an historical review and assessment. Hull, QC. Canadian Heritage, Parks Canada
- Parks Canada. 1994.* "Cultural Resource Management Policy" in Parks Canada Guiding Principles and Operational Policies. Ottawa. Canadian Heritage, Parks Canada.
- Parks Canada. 1997.* State of the Parks 1997. Hull, QC. Canadian Heritage, Parks Canada.
- Taylor, C. J. 1998.* Yoho Fire Lookouts: Built Heritage Resource Description and Analysis. Calgary, AB. Parks Canada, Western Canada Service Centre.

Challenges for Cultural into the Twenty

Rod Heitzmann

Canada is a country of vast plains, towering mountains and foaming rivers. Canada also possesses a unique human history, the product of thousands of years of occupation by First Nations and hundreds of years by more recent immigrants to this land. Parks Canada protects and presents representative natural environments and significant historic and archaeological sites in Canada through the National Parks and National Historic Sites System. Archaeological sites, heritage buildings and historic places under Parks Canada's control are managed under the Cultural Resources Management (CRM) Policy (1994), which is a set of principles and practices that helps determine appropriate management of these resources.

The advent of the new millennium should remind park and site managers of some of the challenges that will face CRM into the future and prompt them to develop strategies to address these challenges. Global climate change, increasing populations, increasing natural resources exploitation, and greater affluence around the world are negatively affecting cultural resources in Parks. These challenges can be viewed as long term global trends that need to be addressed through adaptive CRM.

The effects of global climate change are observable in many ways. Increased temperature and rainfall fluctuations and more numerous, violent storms of all kinds such as hurricanes and tornadoes are notable trends. The heavy rains in June 1996 along the eastern slopes of the Canadian Rockies triggered flooding in Waterton National Park. One result was that numerous archaeological sites experienced severe erosion and destruction. It is likely that global warming effects will continue to affect cultural resources negatively through loss of archaeological sites and damage to historic structures.

Increasing population in Canada and around the world is also affecting Parks. Increased visitation and demands for expanded services stress not only Parks-operated facilities, but also privately operated facilities like ski hills, golf courses and accommodations. Historic buildings are not designed to handle this increased capacity, and this problem leads to demands for expansion or replacement. Larger buildings, parking lots, roads, service lines and trails all have the potential to negatively affect archaeological sites and historic buildings.

Increased exploitation of natural resources such as timber and coal mining is also threatening our parks. Development outside many of our parks is sharpening park boundaries, making their protected status even more distinct. Besides disrupting wildlife habitat, natural resource exploitation reduces recreational opportunities outside parks and results in increased park use. As this trend continues there will be even higher demands on parks facilities. As a result, Park-owned or controlled heritage structures will come under increasing threat.

Another aspect of increased population and visitation is the demand for enhanced national highway development. National highways extend through many of our parks in particular the Trans Canada and Yellowhead Highways. Despite the considerable negative impacts on Park Canada's natural and cultural values, economic interests will inevitably lead to improving and widening these routes in the next century. Parks Canada has learned much in the last 20 years about appropriate mitigation measures for wildlife such as constructing fencing, underpasses and overpasses. However, the challenge of mitigating the negative effects on the cultural values of National Historic Passes like Kicking Horse Pass and Rogers Pass remains. How can visitors come to appreciate the historical significance of a pass paved in broad lanes of asphalt, topped by snowsheds, bordered by decorative "forest motif" concrete abutments while driving at 90 kilometers per hour? Modern engineering can

Resources Management y-First Century

overwhelm the historical values of Place, thereby limiting our understanding of the truly monumental achievements of the first explorers and the construction of railways in the nineteenth century.

Commercialization and commercial expectations are yet other global trends that challenge Canada's National Parks. Too often our visitors arrive with expectations constructed by misguided adventure based fictional tales. For example many people arrive at some of our national historic sites expecting to see reconstructed forts complete with cannons and mock battles. The demand for more reconstruction, generic interpretations and increased visitation continues to threaten the original structures and authentic histories of our sites.

Perhaps the biggest challenges facing National Parks are the protection and maintenance of ecosystems. As Kay (1998) has pointed out, many ecologists downplay the role that Aboriginal peoples had in controlling and maintaining ecosystems. Understanding traditional landscape management techniques used by First Nations peoples is essential to management of these areas. Traditional burning patterns, use of plants, and hunting of animals have all been part of the ecosystem for thousands of years. Re-instituting some of these techniques may be essential to long term ecosystem management.

How can Parks Canada meet the CRM challenges of the twenty-first century? Here are some essential actions:

- Parks Canada must continue to educate the public and its own employees on the goals and values of Cultural Resource Management.
- Parks Canada staff need to be diligent in applying the CRM Policy in all decisions affecting cultural resources. The policy offers essential guidelines that help to determine where historic values rest and to assist in making decisions that affect historic sites.
- Communications programs need to be creative in conveying the message that cultural resources have real value and can be compatible with a wilderness setting.
- Further research is required to develop an increased understanding of the role of humans in land and ecosystem management, both today and in times long past.
- CRM practitioners must go beyond merely inventorying resources, providing significance rankings and responding to periodic developments. Practitioners and managers will need to find new ways to integrate CRM considerations with management decisions.
- The public and parks staff will need to express their interest and concerns to ensure that decisions made about National Parks and National Historic Sites show a commitment to protecting cultural resource values.

Parks Canada may not be able to fully address the global challenges outlined above. In fact, we may be able to do little to arrest the effects of climate-induced destruction. But where Parks does have control it can take actions to creatively adapt and apply effective Cultural Resource Management.

Rod Heitzmann is an Archaeologist with Cultural Resources Services, Western Canada Service Centre, Calgary. Tel: (403) 292-4694. e-mail: Rod_Heitzmann@pch.gc.ca

REFERENCE CITED

Kay, Charles E. 1998. Are ecosystems structured from the top-down or bottom-up: a new look at an old debate. Wildlife Society Bulletin 26(3): 484-498.



EDITORIAL BOARD

Bob Coutts

Cultural Resources
Management
Western Canada Service
Centre, Winnipeg

Mary Reid

Ecologist, Department of
Biological Sciences
University of Calgary

John Woods

Wildlife Biologist
Mt. Revelstoke/Glacier
National Parks



PRODUCTION

Dianne Willott

Production Editor
Graphic Artist



EDITOR, PARKS CANADA

Gail Harrison

Ecosystem Services
Western Canada Service
Centre, Calgary



WRITE TO

Research Links

Parks Canada
#550, 220-4 Ave. SE
Calgary, AB T2G 4X3

e-mail:

Research_Links@
pch.gc.ca

MEETINGS OF INTEREST

June 17-22, 2000

Eighth International Symposium on Society & Resource Management. Western Washington University, Bellingham, WA. This conference is hosted by the College of Arts and Sciences, Huxley College of Environmental Studies and the Program for Canadian-American Studies, focusing on the theme "Transcending Boundaries: Natural Resource Management from Summit to Sea." This theme will be explored in three main "streams": conceptual boundaries, cultural boundaries and political boundaries, as illustrated by topics including: resource management and environmental justice; the challenge of defining and implementing "ecosystem management"; post-modern critiques of wilderness and the debates that have been generated by them; cultural definitions of resources; fisheries in transboundary areas; greater levels of interagency cooperation to achieve management goals; and new organizations, institutions and structures to achieve better regional planning and management. Contact: Anna Elliott, Symposium Program Coordinator: ISSRM - 8th, Arntzen Hall Rm 205, MS - 9085, Western Washington University, Bellingham, WA, 98225-9085 USA; tel: (360)650-2949; fax: (360)650-7702; issrm8th@cc.wvu.edu; www.ac.wvu.edu/~issrm8th

September 9-13, 2000

The 7th International Symposium on Environmental Concerns in Rights-of-Way Management. Westin Hotel (Downtown), Calgary, AB. The 7th Symposium will address environmental issues in rights-of-way management and provide a forum for information exchange among environmental professionals from a wide variety of agencies, industries and academic organizations. The goal is to achieve a better understanding of current and emerging environmental issues related to rights-of-way management by sharing environmental research and practical experience throughout the world. Contact: Dean Mutrie, Steering Committee Co-Chair, TERA Environmental Consultants (Alta.) Ltd. Suite 205, 925 - 7th Avenue SW, Calgary, AB T2P 1A5. Tel: (403) 265-2885, fax: (403) 266-6471, e-mail: dmutrie@teraenv.com or web site: <http://www.rights-of-way-env.com>

October 17-19, 2000

Managing for Bears in Forested Environments. Revelstoke, BC. The Columbia Mountains Institute of Applied Ecology is hosting this 3-day conference, featuring 3 workshops: 1) techniques to monitor bear numbers, 2) forest management issues and guidelines in bear habitat, and 3) living in bear country. This conference will be of interest to anyone concerned with monitoring and maintaining bear populations in forested areas, developing or implementing forest harvest and silvicultural programmes, or working to reduce bear-human conflicts in municipalities and rural areas. Workshops will feature case studies as well as the latest in research techniques and findings. Field trips will illustrate a variety of bear management issues and solutions (electrification of landfills, DNA census methods, guidelines for access management). Contact: Columbia Mountains Institute for Applied Ecology, Box 2568 Revelstoke, BC. V0E 2B0. Tel: (250) 837-9311; e-mail: cmi@revelstoke.net; web site: www.cmaie.org

November 1-3, 2000

Cumulative Environmental Effects Management: Tools & Approaches. Telus Convention Centre, Calgary, AB. Presented by the Alberta Society of Professional Biologists, in partnership with the Alberta Institute of Agrologists and the Association of Professional Biologists of BC. This forum will examine cumulative effects management processes in detail, using examples from a variety of development projects. Specific topics include: implementation of regulatory approvals and environmental management processes, monitoring/adaptive management, legal requirements and public needs. Participants involved in the regulation and assessment of cumulative environmental effects will receive guidance in this challenging discipline. Contact: Gavin More, Registration and Communication. Tel: (403) 239-4248, e-mail: 49north@home.com Conference Mailing address: Suite 174, 234 - 5149 Country Hills Blvd. NW Calgary, AB T3A 5K8 Web site: <http://www.aspb.ab.ca/conference.htm>

<http://parkscanada.pch.gc.ca>

Research Links is in PDF format under Library in the Download Documents section