



An archaeological team works on and around a glacier in the Mackenzie Mountains. The people in the foreground are searching the caribou dung below the ice for artifacts, while those above are taking an ice core for analysis. After finding a willow bow on his first trip to the area, archaeologist Tom Andrews returns each year in mid-August, a time of maximum ice melt.

tom andrews/GNWT

ICY ARCHAEOLOGY: Disappearing clues to our past

by Matt J Simmons

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It's 5:15 in the morning. The kids are sprawled like ragdolls, one on a bed and the other on the floor. The BC Ferries announcement blares through the speaker in the ceiling: "Good morning. We have arrived in Skidegate. Please be careful on the roads as it did snow last night."

I look blearily out the window into the darkness; there is a ghostly white glow in the trees. We've come to Haida Gwaii for archaeology: my wife, Jo Brunsdon, is a professional archaeologist. But if there's snow on the ground, will she actually be able to do any work?

Goodbye snow, hello archaeology!

A frozen landscape often brings archaeological work to a standstill, and in northern BC the spring thaw means archaeologists can head out to dig holes and search for sites. Jo says there are places in the province where archaeological work continues through the winter, but typically it's a warm-weather occupation. When the snow melts, she throws her caulk boots in a tote and heads into the field.

Where is the field? "Haida Gwaii is spectacular, archaeologically speaking," she says. Other locations she's worked include Prince Rupert, Terrace, Meziadin, Bob Quinn, Hazelton, Smithers, Prince George, Mackenzie. "It's very exciting doing archaeology in the North. Not as much has been done up here as in southwest BC."

Because each location's climate and geography are different, each First Nation culture produced different technologies and social structures. "It's really interesting to look at the changes in cultures along the Skeena," she explains, and describes an experiment in which archaeologists produced a

highly honed stone axe—of the kind used for cutting down coastal trees—using only traditional techniques and materials. It took close to 100 hours of labour. "Here on the coast you need a huge social structure to deal with cutting down a tree, but in the Prince George area trees are smaller, and it's a lot easier to cut one down." She makes the motion of pushing one over, but smiles wryly and adds: "Not that I'd want to give it a go."

Archaeology in the Northwest is as varied as the cultures that thrive here—from coastal communities linked to the ocean to interior communities closely connected to rivers, lakes, and the seasonal travels of animals like caribou that led people high into the mountains. Now, the caribou have moved farther north and the mountains themselves are changing. As the seasons shift, mountains shed their snowy blankets, each year baring a little more earth to the warmth of the sun.

Melting Mountains

The snows of Kilimanjaro are melting—this we know. The snows almost everywhere are melting. Glaciers and snowfields around the world are disappearing at a rapid rate, retreating annually as ambient temperatures increase. But most of us aren't aware that this changing climate is affecting archaeology. As glaciers recede, they are revealing amazing archaeological sites and perfectly preserved artifacts.

The nature of these artifacts is especially interesting: they are often organic (made from materials derived from living organisms)—a variety of wooden objects and tools, as well as clothing made with animal hide and sinew. These

A 270-year-old birch arrow shaft and stone point that was found in the Mackenzie Mountains along the border of Yukon and Northwest Territories. Although the cold conditions have preserved the wood, movements of the glacial ice often break artifacts into pieces, then scatter them as it moves over time.

Some finds from ice patches have revealed exceptionally preserved organic technology dating from more than 8,000 years ago.

Quentin Mackie

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perishable artifacts are preserved by a combination of moisture, humidity, and low temperature. Exposed to the elements, they would have long since decomposed.

But archaeology on BC's mountaintops has almost exclusively been off the map. "Nothing significant is being done in BC," says Grant Keddie, curator of archaeology at the Royal BC Museum in Victoria. "I wrote an article with Erle Nelson about an arrow found eroding from a glacier years ago on the Central Coast, which shows this is something that has been happening sporadically for years."

Many of BC's mountains sport glaciers or snowfields; if they're melting, it stands to reason they all represent potential archaeological sites. University of Victoria professor and professional archaeologist Quentin Mackie says it's a shame that no archaeology is being done in the mountains. He comments passionately on the subject in his blog, *Northwest Coast Archaeology*. "Almost nothing has been done on ice patches in British Columbia," he writes, "even though it is certain such archaeological sites are abundant. This is a disappearing resource of the highest importance, so we can hardly take a distanced view that these are somehow not threatened sites. They are extremely threatened: once the ice melts, normal preservation conditions will prevail and these precious glimpses into technologies we usually see nothing of will disappear."

What's in the ice?

What exactly is disappearing? Three hunters trekking in Tatshenshini-Alsek Provincial Park in 1999 found in a glacier the preserved remains of a First Nations man, his tools and clothes around him. In 2000, a woven hat likely made of spruce roots was found by a Fisheries employee at the confluence of the Stikine and Katete Rivers, presumed to have eroded from a glacier upriver. It was dated to the mid 1700s. Woven baskets have been found in ice patches near Lillooet and in Washington's Olympic Mountains, and arrows and other wooden hunting implements have been found in BC, the Yukon, Alaska, and Norway. "Some finds from these ice patches have revealed exceptionally preserved organic technology dating from more than 8,000 years ago," says Mackie.

In the Yukon and Alaska there is archaeological work being done in the mountains. "The ice-patch projects are significant due to their engagement of First Nations in cultural activities relevant to their past and present," says Keddie. "Yukon First Nations groups—the Carcross-Tagish, Champagne and Aishihik, Kluane, and Kwanlin Dün—have become enthusiastically involved in environmental and cultural studies of ice patches for the stories they can tell about their past. A whole generation of young people have become involved with the elders and archaeologists in activities related to these projects."

But discoveries are sporadic: rare finds made by hikers and hunters rather than archaeologists. And as Keddie and Mackie say, there are no programs in place for BC-based archaeologists, or even volunteers, to research potential sites. As usual, it seems to be an issue of funding. "There should be money available for professionals (or at least to pay travel costs of volunteers) to examine glaciers and icefields to identify locations of high potential," says Keddie.

tom andrews/GNWT



Credit: S. Greer / copyright Champagne and Aishihik First Nations



This ice patch in northern BC is the site of some archaeological work by the Champagne and Aishihik First Nations. The dark patch on the top of the ice surface is caribou dung that has melted from the glacier. Most artifacts are found near ice patches like this where there is a concentration of caribou dung. Artifacts like weapons, clothing, baskets and bags may have been lost during hunting or left behind accidentally after cleaning a kill.

Mackie vehemently decries BC Parks for having no research program in place. "We should know the archaeological record of BC Parks better than any other land in this province," he writes. "Instead, we hardly know a damn thing." He believes BC Parks should adopt a program similar to Parks Canada's research program. "Parks are so much more than just a place for deer and rocks and pictures," he says. "Can the cultural resources of BC Parks be managed without some effort by the provincial government to invest in knowledge of such resources?"

Keddie suggests an investment in volunteers. "There certainly could be a program in northern BC to encourage local enthusiasts...to properly document icefield and glacier finds and report them to the Archaeology Branch." Organizations like the Archaeological Society of BC are a good place to start, but more is needed.

The upshot of all this ice-patch archaeology is intriguing, astonishing, engaging...and vanishing. With no archaeologists available to scour the edges of retreating glaciers, artifacts will degrade and disappear. The snows in the mountains will melt and untold archaeological sites will fade before they're even found.

Waiting For the Sun

Leaving the ferry, we drive through snowy darkness to the small community of Sandspit. There's more snow here than many residents can remember seeing. There won't be any work this week, but we'll stay anyway. On Haida Gwaii the thaw comes quickly—and when the snow melts, archaeology can begin!

If hikers encounter what looks like an artifact, they should take pictures, note its location (with GPS or on a map) and give the Archaeology Branch a call at 250-953-3334. For more information about the programs mentioned in this article, visit the following websites:

qmackie.wordpress.com • www.rbcm.gov.bc.ca
www.asbc.bc.ca • www.tti.gov.bc.ca/archaeology



Ask a archaeologist: An interview with Amanda Marshall

by Matt J Simmons

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Archaeologist
Amanda Marshall.

Amanda Marshall owns and operates Kleanza Consulting, an independent archaeological firm in Terrace, BC. She took time to answer a few questions about all things archaeological.

How did you get into archaeology, and why?

After attending UNBC in the anthropology program, I was invited to participate in a field school with the University of Toronto at the McNichol Creek site in the Prince Rupert Harbour area. I'll never forget the moment I walked onto the site and heard the sounds of trowels being sharpened and shovels working...I knew that's what I wanted to do. I quickly learned that I loved the adventure part of the job, I loved getting dirty and smelly, and I didn't mind what Mother Nature had to offer in terms of bugs, weather, and dangerous plants and animals. I grew up in the north, a rural part of Dawson Creek, so maybe that's why I was suited for the job.

What is unique about archaeology in the Northwest?

The area is situated in a coastal rainforest environment, lending to very challenging terrain. Areas we work in are typically wet: cedar, hemlock, and Sitka spruce forest environments with steep-sided valleys and fast-flowing creeks. The area is home to the Tsimshian, Nisga'a, Haida, Haisla, Tahltan, and Gitksan, to name a few; all of these groups have fascinating cultural traditions closely linked to both the spirit world and the natural environment. There's so much archaeology in this region yet to be done—so much more to learn and explore.

What types of projects do northwest archaeologists work on?

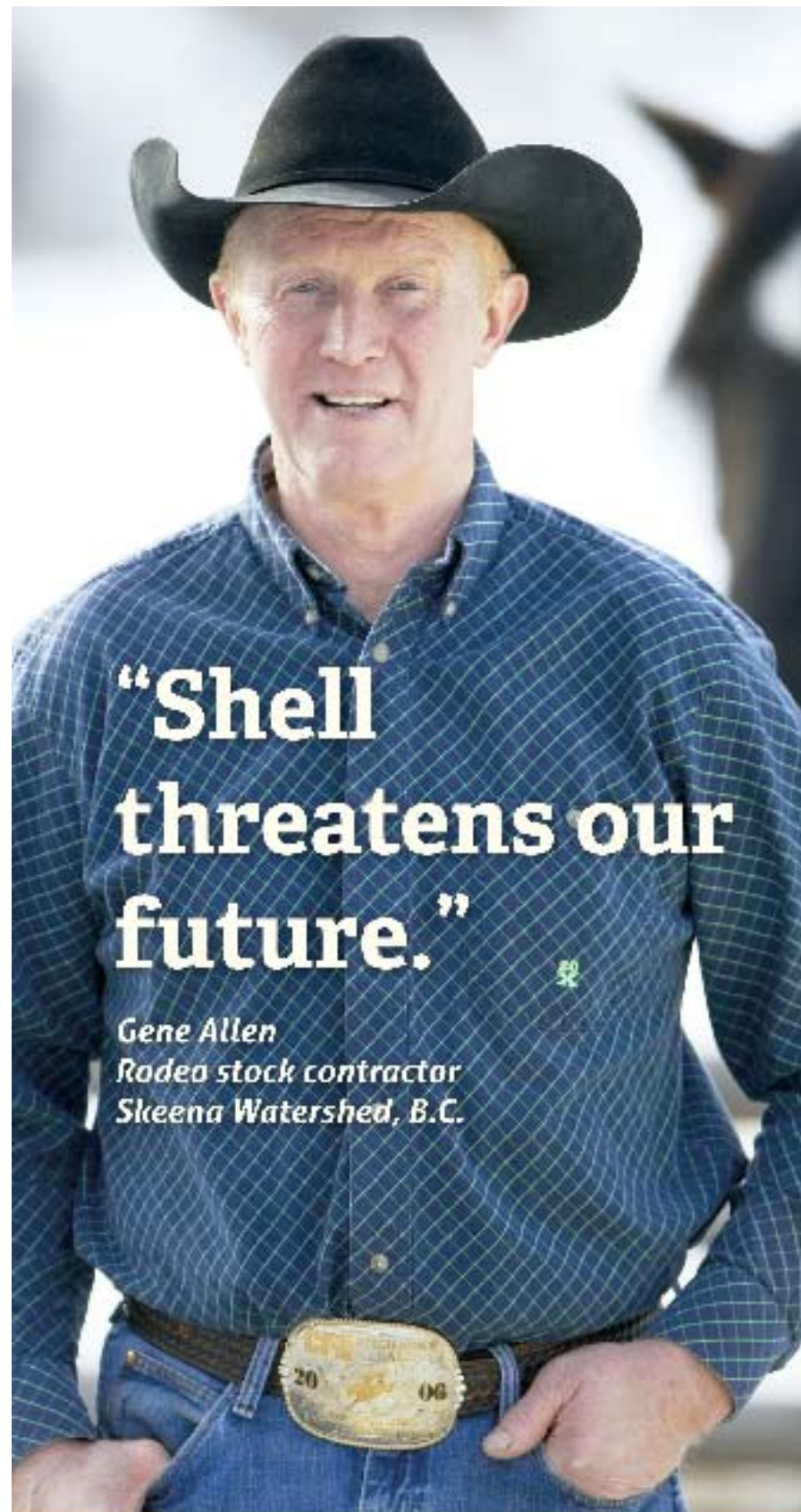
Mostly small- to medium-sized development projects such as forestry cut-blocks, roads, mining exploration, micro-hydro, and wind farms. Whenever a project is proposed, a consulting archaeologist is hired to assess the area for archaeological sites. Our job includes proposals and marketing to get the work and, once the work is secured, fieldwork followed by analysis of results and report-writing. The entire process is completed under a permitting system through the Archaeology Branch in Victoria and we are required, under the Heritage Conservation Act, to fulfil all conditions of the permit in order to continue receiving permits for future work. Our jobs are complicated and intricate, yet very fulfilling and exciting.

What are some of the issues that impact or influence archaeology in the region?

It depends on what exactly you mean. I guess development projects impact archaeological sites and it is our jobs to protect our cultural heritage as much as possible. Whether sites are impacted or to what degree they are impacted depends largely on the rules set by the province at that particular time, as well as recommendations made by the archaeologist and decisions made by the developers. First Nations have an influence on what happens as well, but are sometimes powerless in certain circumstances. In the past, many archaeological sites have been completely destroyed by looters or pothunters who stole artifacts to sell on the black market. Sites are also often destroyed on private property without landowners even knowing what they've done.

What do you think the average person living in the Northwest should know about archaeology?

The average person needs to know that archaeology does not involve dinosaurs. That's palaeontology! They also need to know that First Nations people have lived in the Northwest for thousands of years. We have archaeological sites in the area dating as far back as eight or nine thousand years. The average person learning about archaeology needs to know that most organic things don't preserve well in the archaeological record. Try to imagine what current household items will preserve in the archaeological record, let's say 5,000 years from now. Plastic will likely preserve, depending on the type of plastic and its ability to break down. But most of the items in our houses that aren't made of stone, glass, brick, or plastic will break down over time. What information will be left behind for future archaeologists to study? What will they make of our garbage dumps? What will they think of our cars? Will information preserved digitally or on CD be readable in the future? Not likely. Will they know that we had electricity, Internet, satellite technology, Facebook and Twitter? How about music?



**“Shell
threatens our
future.”**

Gene Allen
Rodeo stock contractor
Skeena Watershed, B.C.

Shell wants to drill more than 1,000 coalbed methane gas wells in British Columbia's Sacred Headwaters, the shared source of the Skeena, Nass, and Stikine Rivers. Coalbed methane development threatens communities, wild salmon and wildlife. To learn more about Shell's bad gas plan, visit SacredHeadwaters.com.

An initiative of the Skeena Watershed Conservation Coalition and ForestEthics.



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