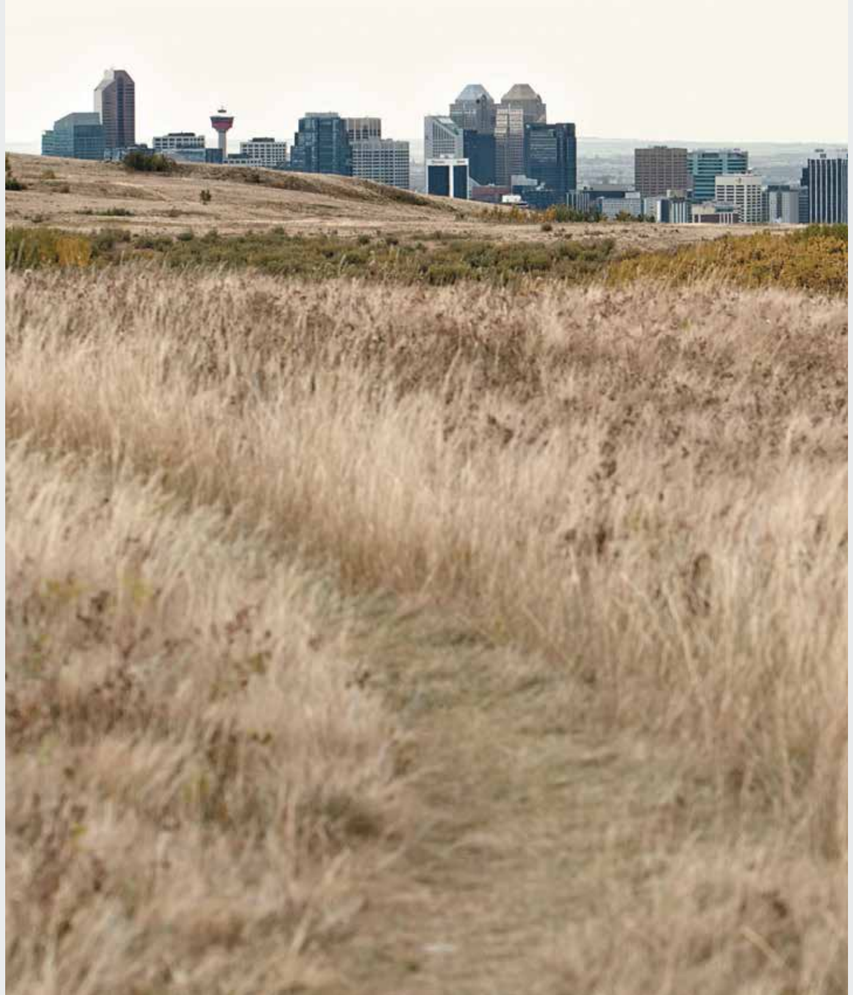
Calgary

UNCOVERING HUMAN HISTORY:

Archaeology and Calgary Parks

Territorial acknowledgement

We would like to take this opportunity to acknowledge that Indigenous people were the first stewards of this landscape - using it for sustenance, shelter, medicine and ceremony. Calgary's landscape falls within the traditional territories of the people of Treaty 7. This includes: the Blackfoot Confederacy, comprised of the Siksika, Piikani, and Kainai First Nations; the Stoney Nakoda First Nations, comprised of the Chiniki, Bearspaw, and Wesley First Nations; and the Tsuut'ina First Nation. Calgary is also homeland to the historic Northwest Métis and to the Métis Nation of Alberta, Region 3. We also acknowledge all Indigenous urban Calgarians who have made Calgary their home and Calgary's parks their parks.



COVER: **Excavations at a site in Simon's Valley**
Photo credit: Lifeways of Canada

RIGHT: **Nose Hill** Photo credit: The City of Calgary

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Explore archaeology

Archaeology is the study of human activity through the recovery and analysis of material culture. Archaeological sites offer a glimpse into how peoples lived, traveled, hunted, gathered, adapted, and survived in the past. They also highlight past people's intimate connection to and knowledge of the landscape and the environment.

Archaeologists excavate deliberately and systematically—stepping further back into time with each layer of soil—revealing century upon century of human history. Using basic tools such as hand trowels, shovels, dust pans and brushes, archaeologists uncover the material culture of past peoples.

Each artifact that is uncovered tells a story. Artifacts unearthed in Calgary and southern Alberta can be varied and differ greatly between pre-contact and post-contact and historic sites. Pre-contact artifacts can include:

lithics – artifacts made of stone including tools, projectile points, scrapers, drills, and knives;

faunal – the remains of animals including bone, fur, and shells;

fire-broken rock (FBR) / fire-cracked rock (FCR) – rocks that have been cracked or broken by deliberate heating (e.g. a by-product of stone-pit boiling);

pottery – traditionally manufactured ceramic vessels usually found in fragments; and,

features – associations between artifacts are called features such as hearths, cairns, stone circles, and medicine wheels.

Many historic artifacts are similar to what we may find in our homes today. There are several types that can help determine when people were using a site and can include:

Ceramics – tableware, crockery, porcelain, and fine china;

Glass – bottle glass, tableware glass, decorative items and window glass;

Nails – hand wrought versus machine cut;

Tin cans;

Guns and ammunition – parts of guns, whole guns, and a variety of cartridge types;

Glass beads – classified by their manufacturing; and,

Structures – often found in remnant form.

Through years of study and research, archaeologists learn to train their eye to distinguish between artifacts and non-artifacts. Using scientific methods, they undertake excavations to answer specific research questions. Once an excavation is complete, artifacts are taken back to a lab for further analysis and investigation—this can include radiocarbon dating, bone analysis, blood residue analysis, pollen analysis (palynology), as well as general artifact cataloguing and site interpretation.

Archaeological evidence of human occupation in Alberta can be found as early as the end of the last ice age, 12,000 years ago. Archaeologists divide post-glacial pre-contact Indigenous history, prior to the coming of Europeans, into three periods termed the Early, Middle and Late periods. These time periods were defined by major technological changes in projectile point types used in hunting and warfare, as seen in the archaeological record.

LEFT: **Excavation at a site in Carburn Park.** Photo Credit: Lifeways of Canada

ABOVE: **Siltstone projectile point recovered at Everblue Springs site (8,000—7,500 years old).** Photo credit: Lifeways of Canada

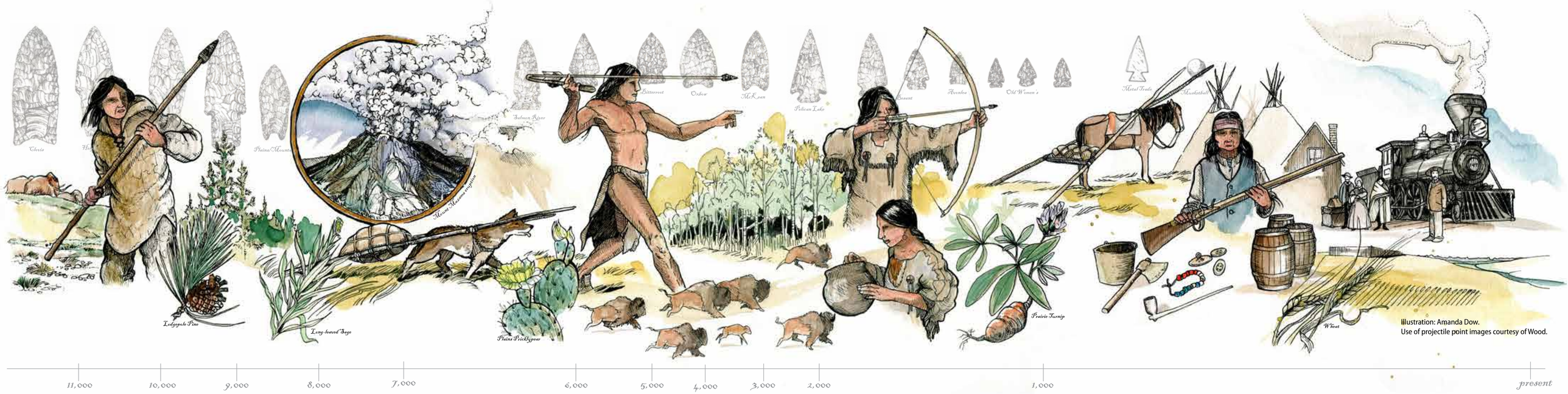


Illustration: Amanda Dow.
Use of projectile point images courtesy of Wood.

The Early Period (ca. 11,050 – 7,750 years ago) is characterized by archaeological phases containing large stone projectile points, presumably used with throwing and stabbing spears. Survival depended on the specialized hunting of big game—many species of which are now extinct including mammoth, long-horned bison, horse, and camelids. Social groups are believed to have been small bands with dynamic and expansive territories and far-reaching trade-networks. High quality stone for tools seems to have been prized and widely traded.

Mazama Ash - A distant volcanic eruption is an important part of Alberta's archaeological record. Approximately 6,800 years ago, Mt. Mazama in southwestern Oregon erupted and sent blankets of ash across the land, reaching as far north as Edmonton. Today, the Mazama ash layer is a distinct marker for archaeologists as they complete excavations, date artifacts, and study soil stratigraphy.

The Middle Period (ca. 7,750 – 1,500 years ago) begins with the appearance of side- and corner-notched dart points in the local archaeological sequences. These points were used to tip light throwing spears propelled with a throwing board usually referred to as an atlatl. More reliance upon locally available stone for tools is frequently noted, as well as an increased in presence of smaller animals in assemblages, including deer, elk, hares, and birds. Early evidence for reliance on plant foods also appears, with evidence of root roasting and grinding stones. In general, the Middle Period is also marked by increased regional variation in projectile point styles—possibly indicating larger social groups occupying smaller territories.

The Late Period (ca. 1,500 – 200 years ago) is characterized in Alberta by the first appearance of the bow and arrow. This new technology is represented in the archaeological record by small notched arrow points. Pottery also appears in some of the later archaeological phases of the plains/parkland and forests. On the grasslands, specialized communal hunting of bison using drives, jumps, and pounds (corrals) indicates larger social groups. This and the increased quantities of non-local stone for tools found in many sites indicate the development of complex and far-reaching trade networks.

The Proto-Historic Period (ca. 350 – 150 years ago) begins with initial contact from Europeans and the establishment of inland trading. The flow of trade goods, including copper and iron arrowheads, glass beads, alcohol, and gun flint to Indigenous groups increased and as a consequence, changes to their traditional lifeways were accelerated. In southern Alberta, early traders encountered the Blackfoot-speaking peoples (Piikani, Kainai, and Siksika), the Stoney Nakoda (Chiniki, Bearspaw, and Wesley) and the Tsuut'ina. The transformation reached its zenith in the 1870s when trade was dominated by American "whiskey traders" from Montana. Distinct Métis settlements began to form in western Canada in the late 1700's, early 1800's.

The Historic Period (ca. 150 years ago – present) in Alberta begins in 1873 with the arrival of the North-West Mounted Police and includes the signing of Treaty 7 in 1877. Bison had become rare by this time, and many Indigenous people were forcibly confined to reserves. Confinement to reserve lands and massive depopulation due to diseases (such as tuberculosis and influenza) resulted in the abandonment of many traditional Indigenous patterns of seasonal resource harvesting and occupancy in Alberta. The arrival of the railway to Calgary in 1882–1883 bought settlers to Calgary and changed the character and use of the landscape forever.

Cultural Context
Archaeologically Speaking

There is variability in the appearance of artifacts found within the Early, Middle, Late, Protohistoric, and Historic Periods.

Archaeologists compare artifact assemblages, and projectile point shape from different sites to determine if cultural links may exist. By doing so, Archaeologists have developed a cultural timeline that is based on scientific comparisons of the artifacts. These 'cultural' phases have been created by archaeologists in order to organize data and typically do not translate to existing Indigenous groups.

The projectile points of the Early Period (ca. 11,050–7,750 years ago) appear stemmed or 'fluted'. The oldest type found in southern Alberta is the Clovis phase, identified first in Clovis, New Mexico. Other Early Period points include Agate Basin/Hell Gap, Alberta, and Scottsbluff/Eden. Several sites are located to the west of Calgary in the Foothills. A Scottsbluff-Eden Phase site (ca. 9,000 – 8,600 years ago) was identified just outside the city, along Highway 8.

Toward the end of the Early period and into the beginning of the Middle Period there is a transition in technology to the atlatl, or spear thrower. The cultural phases associated with this transition include the Plains/Mountain and Lusk phases (ca. 8,600 – 7,500 years ago). A Plains/Mountain phase occupation (ca. 8,600 – 7,500 years ago) was identified at the same site noted above where the Scottsbluff-Eden Phase layer was found. Lusk projectile points (ca. 8,300 – 7,500 years ago) were recovered at a number of Calgary sites, including the Hawkwood site (Nose Hill), the Tuscany Site (12 Mile Coulee), and one of the many Paskapoo Slopes sites. The same sites where these Lusk points were found, later Middle Period occupations are also present reflecting the technology transition.

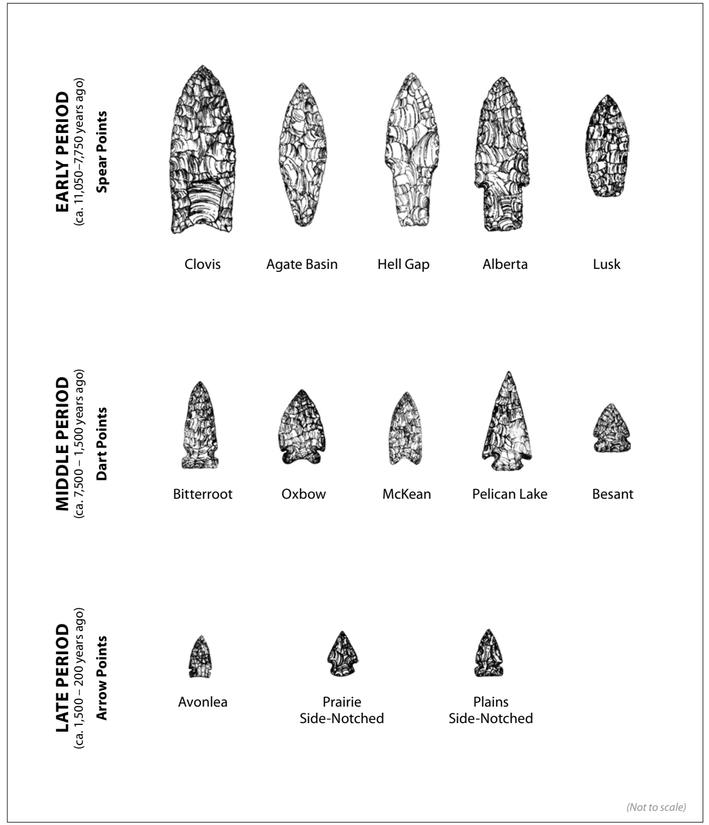
The Middle Period (ca. 7,500 – 1,500 years ago) consists of a number of poorly understood archaeological phases. The overarching Mummy Cave/Boss Hill Phase (ca. 7,500 – 4, 000 years ago) includes a number of regionally distinct elements. Some of which, like the Country Hills Phase (ca. 7,500 – 7,300 years ago), were recovered from a number of sites in Calgary, most notably the Everblue Springs site at the northernmost end of 12 Mile Coulee (Peck 2011). This site, and others discovered in Calgary such as the Mona Lisa site (downtown Calgary) and the Gooseberry killsite (community of Crestmont), attest to the bison hunting skills of the time. Early and classic Oxbow Phase sites (ca. 4,900 – 4,100 years ago) have been found just outside the City to the west, and in Simon's Valley in the northwest. Stone boiling pits are first seen at sites of this antiquity. The McKean Phase (ca. 4,200 – 3,500 years ago) has been found near the Bearspaw reservoir, West Nose Creek, and the Paskapoo slopes. Paskapoo slopes sites reflect a specialization of bison hunting including the building of corrals. Stone circles begin to appear in the archaeological record and are common place during the Pelican Lake Phase (ca. 3,600 – 1,600 years ago). Pelican Lake sites and the characteristic points with 'barbed' shoulders have been found in various Calgary's communities including 12 Mile Coulee Park and the Valley Ridge community. The Middle Period ends with the Besant Phase (ca. 2,100 – 1,500 years ago) that have smaller dart points and is typically the first phase with pottery.

The presence of arrowheads, signifying the exclusive use of the bow and arrow, marks the beginning of the Late Period (ca. 1,500 – 200 years ago). The Avonlea phase (ca. 1,500 – 1,000 years ago) is represented by very thin and finely made triangular points that may or may not have side or corner notches near the base. Distinct pottery can also be found at these sites. Avonlea points were recovered at the Balzac site at the north end of the City and dated to 1,500 years ago which may be one of the earliest Avonlea dates in the province (Peck 2011). There are different theories as to the origin of Avonlea including the migration from elsewhere. There are also differing theories on how Avonlea relates, or does not relate, to the Old Women's phase (ca. 1,000 – 300 years ago). However, most archaeologists agree that the frequent occurrence of Avonlea and Old Women's artifacts being found together is indicative of a transition from one form to the other. Small side notched arrowheads and Saskatchewan Basin late variant pottery are distinctive to Old Women's phase (ca. 1,100 – 250 years ago). Old Women's sites are plentiful in Calgary and can be found on the Bow Valley flats and along the various tributaries and coulees.

The Proto-Historic Period (ca. 350 – 150 years ago) The most obvious change in artifact assemblages seen during this time is the introduction of European trade goods. Metal projectile points and other metal tools like axes and files find there way into Indigenous sites. Glass beads, clay pipes, and the presence of horse bone are also indicative of the time. Dubbed proto-historic Old Women's sites, the assemblages have distinct similarities with those of the Late Period. A new type of ceramic vessel is found, Cluny pottery. A number of Archaeologists (Reeves 1983, Byrne 1973, Magne et. al 1987, and Peck 2011) have theorized a correlation between Old Women's phase sites and ancestral Blackfoot peoples. In Calgary, a site on the Paskapoo slopes contained 11 copper points, an iron knife and file, a button and a bead in the uppermost occupation level, while older stone tools were found deeper. A metal point was also recovered at the Balzac site on Nose Creek and at another site in Fish Creek park. Once European goods enter archaeological assemblages, the distinct differences observed between different occupations become more difficult. This combined with the relatively short time frame can challenge archaeological interpretations at sites. ■

LEFT: **A clear quartz crystal dart point from the Gooseberry Killsite in the Community of Crestmont (7,200 years old).** Photo credit: Lifeways of Canada

RIGHT: **Examples of some projectile points.** Point illustrations: Amanda Dow, courtesy of Wood.



Explore Calgary's Parks

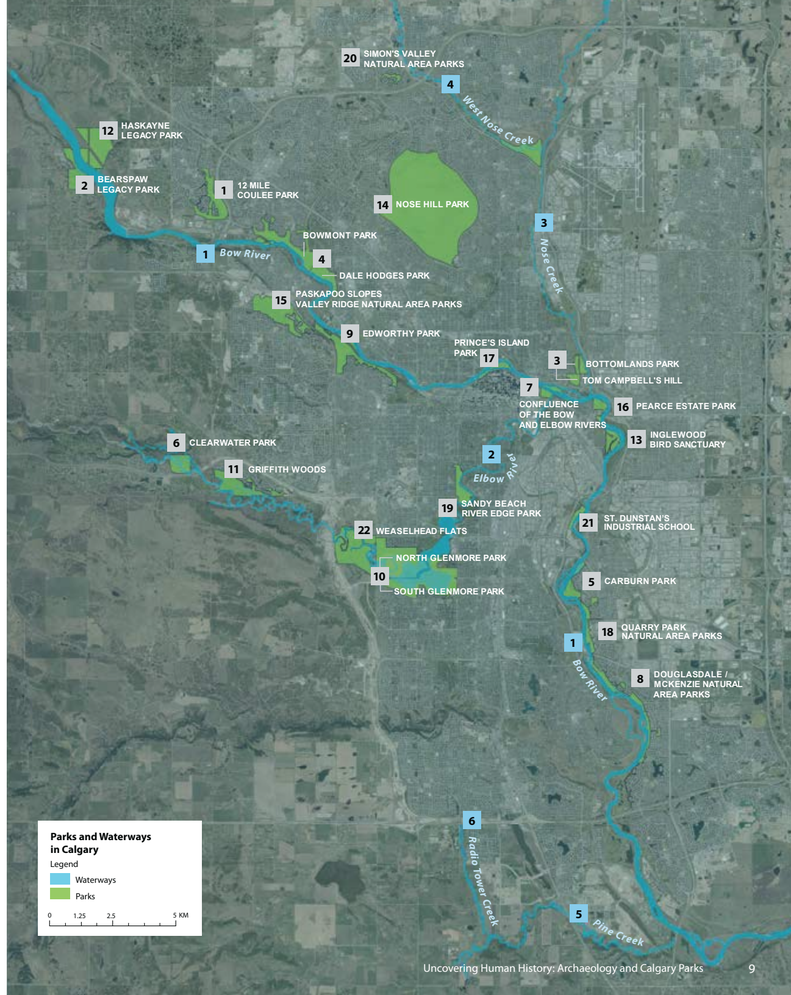
Calgary is a prairie city defined by open vistas, rolling hills, and river valleys. Shaped by wind, water, fire, and ice, the ancient landscape sustained human activity for thousands of years.

The landscape now encompassed by the City of Calgary can be viewed as a palimpsest of small individual everyday moments and larger, historically consequential occasions. From making arrowheads around a campfire while you watch your children play in the long grass, to watching the thundering herds of 6-year old soccer players enjoy the same spot thousands of years later. Archaeological excavations completed in Calgary have enriched our understanding of past peoples, changing environments, and conservation opportunities for the future.

The landscape we see all around us today looked very different in the past. The end of the Ice Age was marked by Glacial Lake Calgary filling the Bow Valley behind an ice dam, which blocked the natural flow of meltwater eastward. The fine silts and clay deposited in the bottom of this large glacial lake can be seen in the bluffs exposed in Bowmont Park, along the edge of Varsity Estates. Thousands of years after Glacial Lake Calgary dried up, the Bow River became re-established in the valley bottom.

People were drawn to the valley by an abundance of vegetation, game, and suitable places to camp. Archaeological research conducted in the Calgary area over many decades reveals the depth and breadth of human occupation here over millennia. Certain types of sites are often found within specific landscapes. Spring campsites might typically be found in higher hillside locations to take advantage of the warming sun

OPPOSITE: Sandy Beach Photo credit: The City of Calgary



and dry ground, while winter camps are more likely to be at lower elevations where people were sheltered from the wind and cold. Bison killsites associated with bison jumps or pounds are found on steep slopes or at the base of cliffs.

Calgary is considered an "archaeological hot spot" in our province – we have 10 times the known archaeological sites in Calgary compared to Edmonton! The City of Calgary invites you to explore our parks and pathways to connect with the city's remarkable natural and cultural heritage. By exploring Calgary's Parks, we connect with the landscapes of the distant past and take time to reflect on early ways of life. ■

Calgary's waterways and parks pathways

Much like today, the reliance on water has been key to the survival of humans for thousands of years. During pre-contact times, the waterways and associated valleys would have provided travel corridors, and sheltered camp locations for people. Animals and plants, abundant near the waterways, would have provided sustenance as groups moved on their season rounds.

Many of the City's waterways have pathways adjacent to them and as you explore the pathways system, take time to think about what the area may have looked like and how it has changed over thousands of years. Were bison making there way to the creek to drink? Is there an open terrace that could have housed multiple tipis?

ABOVE: **A bison bone bed unearthed at the Everblue Springs site in the community of Tuscany (8,000 – 7,500 years old).** Photo credit: Lifeways of Canada

Bow River 1

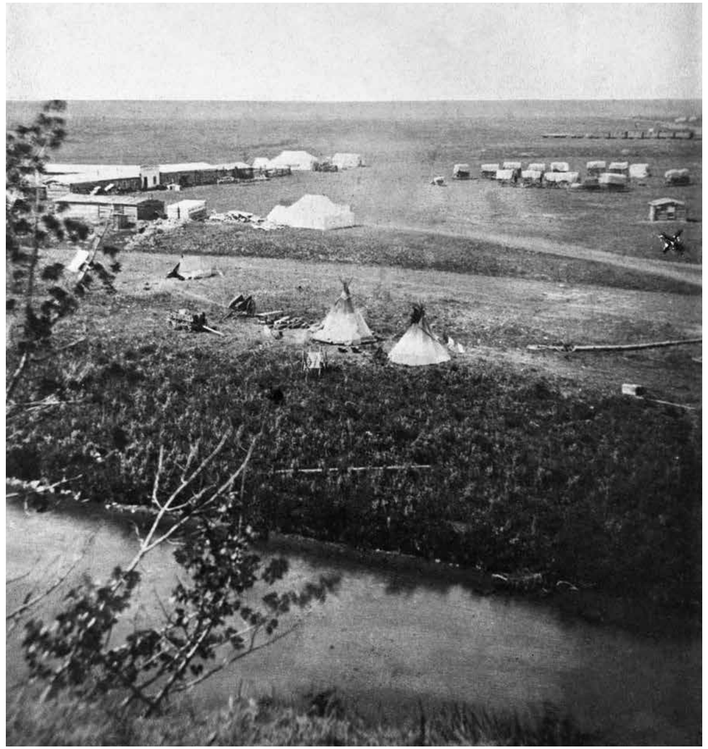
Large rivers, like the Bow River, have been important to people throughout history for many reasons, and this is why many large cities are located along them. Not only do rivers provide water for drinking and cooking, but they also provide useful travel corridors and are abundant in resources. The landscapes around rivers usually offer an excellent view shed and give people sight lines so that they can observe game animals approaching the river for water. Past peoples, including both First Nations and early settlers, extensively utilized rivers for travel and resources. Generally, archaeologists consider the land around rivers to have very high potential for archaeological sites.

The Bow River valley was ideal for larger winter habitation sites where multiple families would overwinter together a practise that the archaeological record suggests became a common seasonal habitation pattern approximately 3,500 years ago. Some of these larger habitation sites have been identified in Carburn and Quarry Parks. At various points along the river the landscape is ideal for different methods of hunting. Numerous killsites have been found in Calgary that take advantage of the landscape features within the Bow River Valley. Evidence of pound construction has been found on the Paskapoo slopes to the northwest. ■

BELOW: **Bow River.** Illustration: Amanda Dow

Elbow River

2



The Elbow is a fast-flowing naturally braided river, where ever-changing gravel bars divide the flow into a number of channels. This means that archaeological sites and artifacts in the lowest part of the river valley may not last long, as they are eroded by the frequently changing channels, or capped and re-modelled by flood events. The few sites known in the valley bottom are very small artifact scatters.

The Elbow River valley has long served as a travel corridor for both people and game animals. It provided sheltered areas on the low river banks for campsites with access to wood and water, and a variety of plants for food and medicinal uses. There are bison kill sites on the slopes of the valley wall, and a string of campsites on both valley rims at the prairie level. Camps are also found on the high points above the bends in the original river course. Early photos show the Elbow River winding through a well-treed valley bottom, with a number of backchannels and wet areas, and a large oxbow between Heritage Park and Bayview, the bend in the 'Elbow'. There were likely small campsites on the terraces beside the channels in the valley bottom, as there are in the Weaselhead.

You would not expect to find here the kind of major, repeatedly occupied campsites that are present in the larger Bow River valley, where there are wider and drier terraces to camp on. You do not find the large bison kill and processing sites like those in the coulees leading down from the prominent uplands, on the Paskapoo slopes or Nose Hill. But Calgary was a major focus for human occupation in the past, particularly for winter settlements in the river and creek valleys, and the smaller sites throughout the Elbow River valley are part of this pattern. ■

LEFT: **Early photo of Calgary with the Elbow River in the foreground.** Photo credit: Glenbow Archives na 1038-1

Nose Creek

3

The Nose Creek Valley contains a number of bison kill/processing sites along its length that correlate to specific landscape features and erosional patterns of the creek itself. Such sites reinforce the deep connection to and knowledge of the land that pre-contact peoples had in order to survive here.

One of the best stratified sites in Alberta - The H.M.S. Balzac site is a bison kill/processing site with an adjacent campsite located on a relatively undisturbed section of Nose Creek Valley. The site has Provincial designation due to its importance to the region and reflects a shift in resource harvesting and habitation patterns. People were returning to this location from approximately 2,000 to 150 years ago, using different elements of the landscape including the high bench-lands and the floodplain below. The repeated flooding of Nose Creek resulted in preservation of different occupations in a clear, deeply stratified sequence. This separation allows for precise study of seasonality and dietary considerations of individual occupation events.

During excavations, in the early 1980's, over 70,000 pieces of cultural material were recovered including thousands of bison bone fragments, as well as instances of wolf or dog bone, and badger/small rodent bones. Tools recovered were made of both stone and bone. Domestic activities were also represented by pottery sherds. Both Avonlea (ca. 1,800 – 1,200 years ago) and Old Women's (ca. 1,200 – 200 years ago) style projectile points were unearthed here. By studying the bones recovered, archaeologists know that bison were killed in late winter/early spring based on the presence of late term fetal bones. The late winter occupation is intriguing because Nose Creek Valley is exposed to the elements and devoid of wood for fires. Intense snowstorms can sweep through this area making it a less-than-ideal spot to set up camp. However, the site complex is adjacent to a sandstone cliff on the west side of the creek which may have been used as a bison jump. This outcrop is the only exposed sandstone cliff of any consequence in Nose Creek valley which may explain why this location was selected and repeatedly utilized. ■

BELOW: **The deep and well layered stratigraphy at the Balzac Site (Nose Creek) shows evidence of people returning to the same location over a thousand years.** Photo credit: Government of Alberta Archaeological Survey

West Nose Creek 4

Similar to Nose Creek, West Nose Creek is a highly significant area for pre-contact settlement as defined by the archaeological sites. It served both as a travel corridor and as an area for seasonal pre-contact hunting and settlement.

Archaeological studies, between the 1970s and early 2000s, indicate that the focus of pre-contact settlement in the West Nose Creek valley was near the confluence with Nose Creek (east of Centre Street). In general, the pre-contact archaeological sites include both buried valley floor campsites, at least one killsite, as well as stone-features/buried camps on the higher terraces. There are 10 archaeological sites that exist(ed) within the current Confluence Park boundary. A particularly interesting site is a fire-broken rock feature situated on a terrace along the north side of West Nose Creek. Testing revealed a fire-broken rock filled pit and unbutchered bison bone. This site was interpreted as representing a pre-contact sweat lodge pit—providing evidence of traditional sweat lodge practices (Reeves 1990). ■

Pine Creek 5

Archaeological studies have identified concentrations of pre-contact occupation along Pine Creek. The valley is deep and has several level terraces that formed as the water level in the creek changed over time. These terraces provide shelter from the wind, and although timber may be scarce on the prairies, water courses promote the growth of trees and would have provided valuable wood for fires, tools, and tipi poles. The creek would have drawn a variety of animals and the landscape features would have provided ample hunting locations. A common method for hunting bison was to drive the animals downhill into a "pound", a built corral, natural barrier or muddy hollow, and then shoot arrows into the milling animals before they could escape. This tactic could kill many animals at once and provide food for whole communities of people. While many of the archaeological sites along Pine Creek are campsites, there is one bison killsite that is well stratified and includes an occupation below the Mazama Ash lens speaking to its age being older than 6,800 years ago. ■

Radio Tower Creek 6

Similar to Pine Creek, the area around Radio Tower Creek, after which the park is named, has been occupied for thousands of years. These small waterways provided useful camping locations, hunting spots and travel corridors for pre-contact peoples.

Most of the archaeological sites near the creek were identified during Historic Resource Impact Assessments (HRIA's) that take place before planned developments. Pre-contact sites have been found in a variety of locations such as hilltops, valley bottoms, ridges, next to wetlands and along the creek. Several pre-contact campsites and bison kill sites have been found along the creek. Artifacts found at these sites include bison bone, fire-broken/fire-cracked rock, and debitage left over from making stone tools.

An interesting site was documented by Richard G. Forbis, founder of the Archaeology Department at the University of Calgary. Southwest of the park area, he recorded rock art on a glacial erratic on top of a small hill. Although badly faded, the rock art consisted of four, finger-length, vertical stripes painted with red ochre (iron oxide). Although rock art was likely fairly common in the past, it does not preserve well and once faded, it is lost to history. Only five examples have been recorded in the Calgary area. ■

RIGHT: **West Nose Creek.** Illustration: Amanda Dow

12 Mile Coulee

1

Tuscany Blvd N.W. and Stoney Trail N.W.

12 Mile Coulee Park includes lands associated with a channel carved out by rain and melting snow draining into the Bow River. As you walk the numerous paths present in the park today, it is easy to imagine that this sheltered valley, and the abundance of plants and wildlife it supports, attracted people to the coulee in the past as they do today.

One of the most interesting archaeological sites associated with 12 Mile Coulee is known as the Tuscany Site, which is a series of campsites where small groups of people conducted their everyday activities. These activities range from simple things such as sleeping, cooking, and eating, to more complex things, such as forming tools from stone. These camps were located west of 12 Mile Coulee overlooking the Bow River within a bowl-shaped basin sheltered by surrounding ridges and provided easy access to 12 Mile Coulee and the Bow River Valley below. Burnt seeds from in the basin tell us that juniper and bearberry (kinnickinnick) were located at the site. Juniper berries are edible and its boughs make a medicinal tea. Bearberry is often combined with tobacco for smoking. This mixture is called Kinnickinnick and many have come to use this common term to describe bearberry plants themselves. Animal bones found in relation to an ancient camp fire tell us that bison were the principle food source. A wide range of animal remains found at the Tuscany Site; however, confirm that the people who lived here also hunted other large and small animals.

The archaeologist's favorite combination of radio carbon dating and the styles of spear, dart, and arrow points confirm people used the area of 12 Mile Coulee for many thousands of years. The earliest camp at the Tuscany Site dates to 7,840 years ago, during this time, it is believed that people used large spears to hunt animals. Another camp in the basin is 6,900 years old when people began to transition their hunting strategies to using atlatls instead of spears. People use a similar tool today to give their dogs a better game of fetch through farther throws. Other evidence from the Tuscany Site show people also camped there between 3,500 – 3,000 years ago, and then again between 2,100 – 250 years ago. These more recent camps show the transition between spear throwers (atlatls) and the small stone points used with the bow and arrow. Refer to the timeline at the beginning of this document to learn more about how hunting strategies evolved over time.

Within the coulee itself a buried circular grouping of stones was found. These stone circles are interpreted as the location of tipis. The site is interpreted to have been occupied during the winter and the people likely took advantage of the coulee as a sheltered location with easy access to fire wood. Examining the pattern of where artifacts were found within the tipi shows its interior was divided by different activities. Based on this evidence, it appears that the entrance to the tipi was in the south, sleeping platforms and storage areas were along the outside, and tool making and cooking was focused around the central fire (Otelaar 2000). ■

OPPOSITE PAGE: **Excavations at the Tuscany Site.** Photo credit: University of Calgary

BELOW: **Excavated stone circle.** Photo credit: Lifeways of Canada

Bearspaw Legacy Park

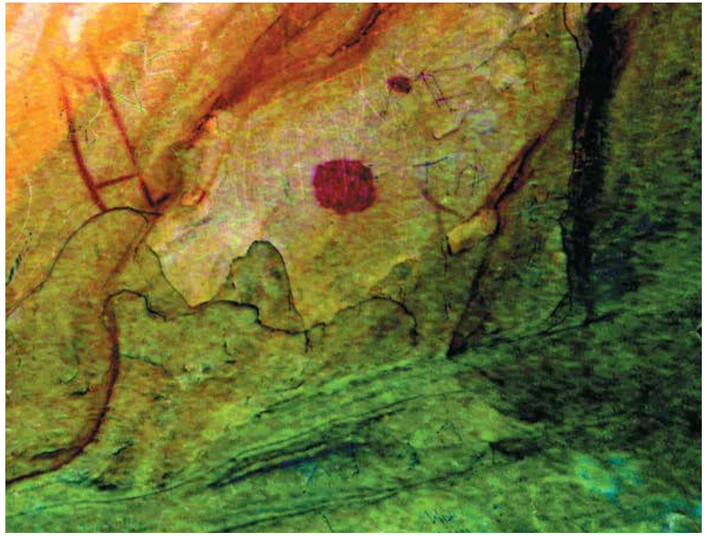
2

South end of the Bearspaw Reservoir (west side)

Bearspaw Legacy Park is characterized by rolling sloped landscape and lower terraces along the Bow River. This location is a prime spot for archaeological sites. While archaeological excavation has been limited within the park boundaries, as development to the southeast of the Park continued a number of excavation studies have been undertaken. One project included the excavation of a series of archaeological sites in 1997. Most of these were small campsites recorded in shallow depressions created by the rolling terrain. One larger site dated to between 4,000 to 3,300 years ago. It was determined to be a late winter basecamp where many family groups gathered and came back to numerous times over the centuries. Another site, containing evidence of bison processing was found to date to approximately 3,300 to 2,000 years ago. In addition to the remains of campsites and bison processing sites located along the upland valley margin and upper terraces, a number of bison killsites have also been recorded; several of these in the coulee bottoms of the side valleys that open into the main Bow Valley.

The pattern of landuse depicted by these nearby sites undoubtedly describes the human past within Bearspaw Park; a story of family groups hunting and camping along the river valley during the winter months. These domestic stories are complemented by a known rock art site recorded along this stretch of the river outside of the Park boundaries. At this rock art site several pictographs (images painted on a rock surface with red ochre, a type of mineral based pigment) have been recorded on tall sandstone cliffs overlooking the river. Similar cliffs are present within Bearspaw Park and likely at onetime provided canvases for now disappeared images. The images at the reservoir site consist of a partial rectangular-bodied human figure, two filled circle shapes, and a smaller human stick figure. Although incomplete, the rectangular-bodied figure shows embellishment around the neck and shoulders, possibly representing traditional neck openings and tailoring common to Northern Plains hide shirts. These images fall within what is known as the Ceremonial Rock Art Tradition which is amongst the most widespread of all rock art styles in the Northwestern Plains and spans more than a thousand years (A.D. 250 to the 1800s; Keyser and Klassen 2001). This rock art tradition generally consists of static, isolated representations of humans, animals, and material culture (e.g. weapons, shields, etc.) and marks the occurrence and/or place of important ceremonial/spiritual event or the commemoration of a specific ritual activity.

One example of this is vision-questing whereby rock art is thought to be the depiction of a dream received during a vision-quest, a period of physical and mental deprivation during which altered states of consciousness are reached allowing communion with the spirit world. This was a common practice among many First Nations in North America in which protection or guidance is sought from spirit helpers. Although these images have unfortunately been damaged by natural weathering and modern graffiti, they record the long distant and unknowable spiritual experience of a fellow human who experienced this landscape many years in the past. ■



OPPOSITE PAGE: **Rock art recorded on sandstone outcrops along the Bow river.** Photo credit: Lifeways of Canada

LEFT: **Digitally enhanced version.** Photo credit: Lifeways of Canada

Bottomlands Park and Tom Campbell's Hill

3

Bottomlands: **220 St. Georges Dr. N.E.**
Tom Campbell's Hill: **25 St. Georges Dr. N.E.**

Bottomlands Park is located on the west low terrace overlooking Nose Creek. Historically, Nose Creek had consisted of meanders that crossed the lands of the current park. Very little archaeological work has been conducted along this portion of Nose Creek. Considering how the park is situated on the landscape, it is likely that the area was primarily used during the pre-contact period for killsites and campsites. Archaeological findings in the general vicinity reflect this.

One archaeological study was conducted within the southern portion of Bottomlands Park in support of the construction of Telus Spark. This excavation included backhoe testing (one form of archaeological assessment) where artifacts typical of a campsite were found. These artifacts reflect activities like stone tool production, and the cooking of animals. These materials were all recovered from a buried flood plain layer, which was present under a large amount of fill that resulted from the use of the area as a landfill.

Another site was found along Nose Creek. Here, a bison killsite was discovered on the east side of the creek. This site was first found in 2002 as bison bones and teeth eroding from the creek bank under a layer of volcanic ash. This ash layer is presumed to be from the Mount Mazama eruption, which occurred roughly 6,800 years ago. The site has since been capped and no further archaeological work has been conducted there.

Overlooking Bottomlands Park and the Nose Creek/Bow River confluence is Tom Campbell's Hill. This would have been a prime camp location as it would provide a great vantage point of the valley below and close access to water and the animals that were dawn to it. That said, little archaeological work has been done because most of the communities in this area

were developed before the creation of the Historical Resources Act in 1973. Walking through the grasses in Tom Campbell Park; however, you can imagine tipis dotting the landscape, campfires burning and meat drying on racks, perhaps from a successful hunt down by Nose Creek. ■

ABOVE: **Bison skull eroding out of cutbank.** Photo credit: Lifeways of Canada

RIGHT: **Bison.** Photo credit Allan Nearing

Volcanoes, Alberta, and Mazama Ash

Volcanoes and Alberta may not seem to be connected, but a distant volcanic eruption is an important part of Alberta's archaeological record. Approximately 6,800 years ago, Mt. Mazama (today's Crater Lake) in southwestern Oregon erupted and sent blankets of ash across the Pacific Northwest and into southern British Columbia and Alberta. In the short-term, the ash impacted water quality, smothered plants, and made breathing difficult. In the long-term, the nutrient-rich ash benefitted grassland productivity and as a result bison herds prospered. Today, the Mazama ash layer is a distinct marker for archaeologists as they complete excavations, date artifacts, and study soil stratigraphy.

BELOW: **Mazama Ash layer observed in a backhoe test representing a 6,800 year old volcanic eruption.**
Photo credit: Lifeways of Canada

4

Bowmont Park and Dale Hodges Park

Bowmont: **85 St. N.W. and 48 Ave. N.W.**
Dale Hodges: **2123 52nd Street N.W**

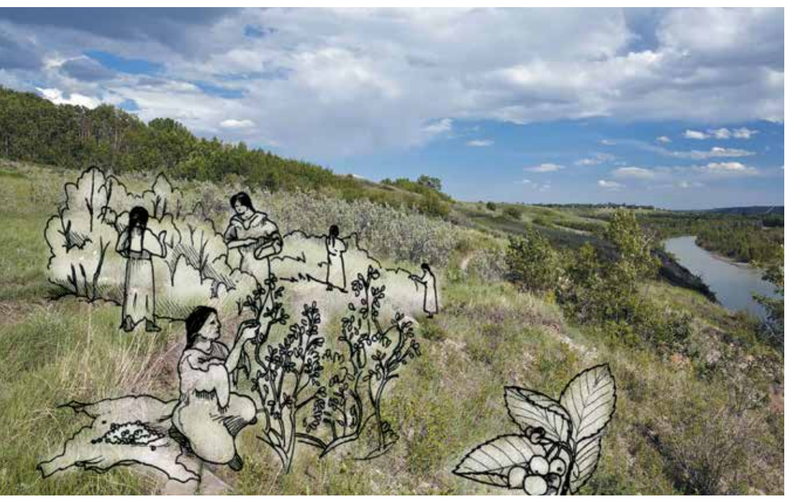
The archaeology of Bowmont Park is not without it's controversy! A number of pre-contact sites have been identified along the north bank of the Bow River, but three in particular garnered a lot of interest from the archaeological community at one time.

Most scholars believe that people began to inhabit Alberta after the last Ice Age, approximately 11,200 years before present (Bubel et al. 2012). These early people are referred to as belonging to the Clovis phase that inhabited Alberta 11,200 to 10,800 years ago. Yet, throughout North America, there are a few recorded sites that suggest earlier settlement took place (Peck 2011). Cultural groups associated with these potentially very early sites are referred to as pre-Clovis. Three such controversial sites were identified in Bowmont Park where crudely worked "stone tools" were found along the slope of the Bow River escarpment. The artifacts were recovered from sediments that were believed to have been deposited before the formation of Glacial Lake Calgary (between 21,000 to 11,900 years ago), potentially making these some of the earliest pre-Clovis human occupations known in North America (Chlachula 1994; Chlachula 1996; Vivian 2007; Fisher 1999). These claims have been rigorously debated over the years and were ultimately debunked.

Bowmont Park does contain legitimate sites including one campsite located on the valley rim that shows evidence of repeated use by different groups over millennia. Projectile points recovered were associated with cultural groups known as Oxbow (ca. 4,500 – 4,100 years ago), Pelican Lake (ca. 3,600 – 2,100 years ago), Besant (ca. 2,100 – 1,500 years ago), and Old Women's Phase (ca. 1,100 – 300 years ago). Other sites within the park show a pattern of local landuse in pre-contact times, likely related to the presence of year-round springs found within Water Fall Valley and prairie level flats that would have been favoured as camping areas (Vivian 2007).

Dale Hodges Park is located on the floodplain terrace on the north side of the Bow River, adjacent to Bowmont Park. It is believed the park area would have been an excellent winter campsite for small groups because of an abundance of plant resources (e.g., cottonwood, willow, chokecherry, Saskatoon berry, wild rose, and red osier dogwood), wild game, fresh water from underground springs, and shelter from the northern winds (Balcom, 1982). The steep Bow River Escarpment that abuts Dale Hodges Park to the north has many referring to it being a bison jump. Bison could have been driven over the escarpment and fallen onto the floodplain below, where they would then be butchered and processed. Despite this hypothesis, no archaeological sites have been recorded in the park to date. The lack of sites may be a result of disturbance and development in the area prior to the implementation of the Historical Resources Act. ■

BELOW: **Bowmont and Dale Hodges Park.**
Illustration: Amanda Dow



5

Carburn Park

67 Riverview Dr. S.E.

The Bow River valley has been an important locale for Indigenous peoples for millennia. The river provided food and water, while the valley provided shelter from the cold winter winds, and shaded relief from the hot summer sun. It was also home to a variety of food sources, such as berries and herbs for medicines and teas, and large and small game. Bison, wolves, bears, cougars and ungulates such as deer and elk were hunted or trapped by the First Nations peoples, who used the animals for much more than food; clothing (hides and sinew), shelter (hides for tipis), tools (horns, hooves, antlers) and ceremonial items (horns, claws) could all be derived from these animals.

The importance of the river valley to pre-contact peoples is seen at Carburn Park, where archaeological excavations have uncovered evidence of human occupations stretching back to the Middle Period (ca. 7,750 – 1,500 years ago). There are six known archaeological sites located in Carburn Park, with an additional 28 sites located in the surrounding area. The majority of sites within the park are campsites located along terraces of the Bow River.

Excavations at the Carburn Park Site uncovered four different occupation layers. The first, and oldest, occupation includes a variety of lithics and animal bones, as well as a hearth feature. Radiocarbon dating of animal bones remains from this level has dated the site to approximately 3,500 years ago. The second oldest occupation level has been dated to approximately 1,000-1,300 years ago, based on the analysis of recovered obsidian debitage. The third time the site was occupied has been dated to the Late Period (ca. 1,500 – 200 years ago), and includes the largest sample of artifacts within the site, including lithics, animal bones, fire-broken rock, and a hearth feature. Several stone tools were uncovered in this component, including hide scrapers, wedges, and utilized pieces of stone (expedient tools created and used for a single activity and left). The presence of stone debitage (waste material from manufacturing tools) indicates that core reduction and tool manufacturing activities also occurred at the site. The final and most recent occupation level is believed to date to the Historic Period; some artifacts of note include a perforated shell used for ornamentation and two stone artifacts made from imported materials, which suggests that the occupants of the site had interactions with outside groups. These separate and distinct occupations show us that the Carburn Park area has been used by several different groups throughout history, with people choosing this location to camp again and again for thousands of years.

Archaeologists have suggested that the Carburn Park Site is a campsite that was occupied during the winter, as ungulate herds would have been attracted to the more protected terrace and surrounding valley. Animal bones from a nearby site confirm winter occupation of the area. The spatial distribution of artifacts shows that the activities at the site center around the hearth features. ■

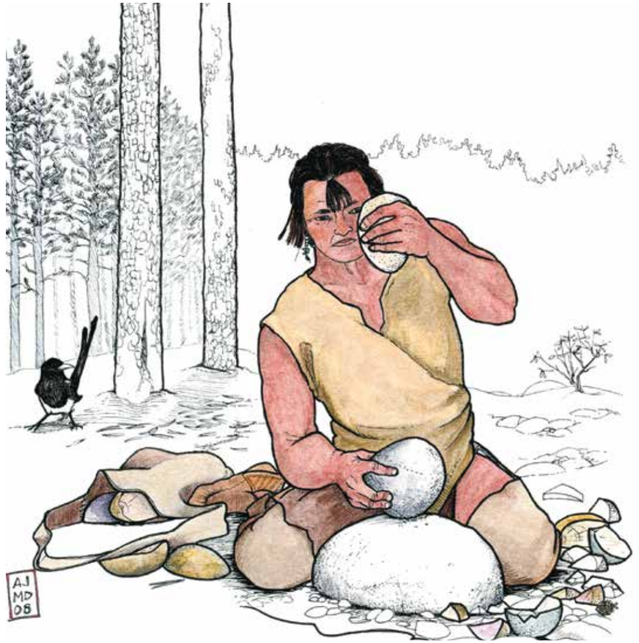
BELOW: **A roasting pit, where people would dry and prepare bison meat (2,500 years old).** Photo credit: Lifeways of Canada

Clearwater Park

6

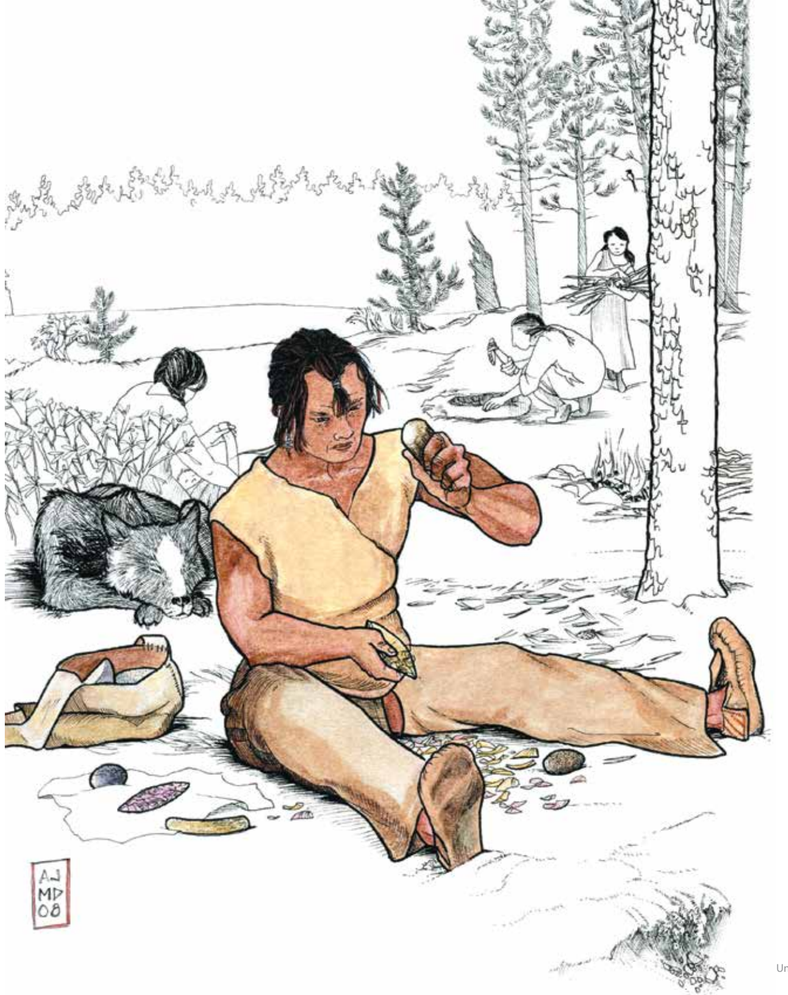
Clearwater Drive, north of Hwy. 8

Clearwater Park is located in an archaeologically sensitive area, however, there have not been any archaeological sites identified within the park itself. This is not because past peoples did not use this area, but because there has been no need for archaeologists to conduct Historic Resource Impact Assessments (HRIA)s within the park. Most archaeological sites are discovered during studies completed prior to development.



The park includes a section of the Elbow River, and this increases the likelihood that there are unrecorded archaeological sites in the park. Within a kilometer of the park, there are nine known archaeology sites. Several of these are what archaeologists refer to as lithic scatters. When past peoples made stone tools, small chips of stone would be left behind (debitage). Archaeologists may find sites with only a couple of these stone flakes, or they may find hundreds, but if there is no other evidence of habitation at the site, then it is referred to as a "lithic scatter." A stone circle was recorded at one of the sites indicating the presence of tipis. Evidence of campfires, fire-broken/fire-cracked rock and/or tipi rings tells us that people resided at this location for some time. In the not too distant past, not far from the campsite, a historic barn and farmstead were constructed by early settlers to the Calgary area.

Studies conducted during the development of the Stonepine Residential Community and the Glencoe Golf and Country Club discovered several archaeological sites just upstream from Clearwater Park. The majority of these sites provide evidence of pre-contact indigenous use. There are not only lithic scatters, but also bison kill sites and many campsites. The two oldest occupations date from 9,000 – 8,000 years ago. A Scottsbluff style projectile point (ca. 9,000 – 8,600 years ago) shows that the oldest occupation at the site dates to the Early Period. Another type of point called the Lovell Constricted was used to date the next oldest occupation layer to approximately 8,300 to 8,000 years ago. Several other atlatl dart points (Middle Period ca. 7,750 – 1,500 years ago) and arrowheads (Late Period ca. 1,500 – 200 years ago), provide evidence that people reused this site time and time again until just before First Nations groups made contact with European settlers. ■



LEFT AND RIGHT: Making stone tools. Illustrations: Amanda Dow

Confluence of the Bow and Elbow Rivers

7

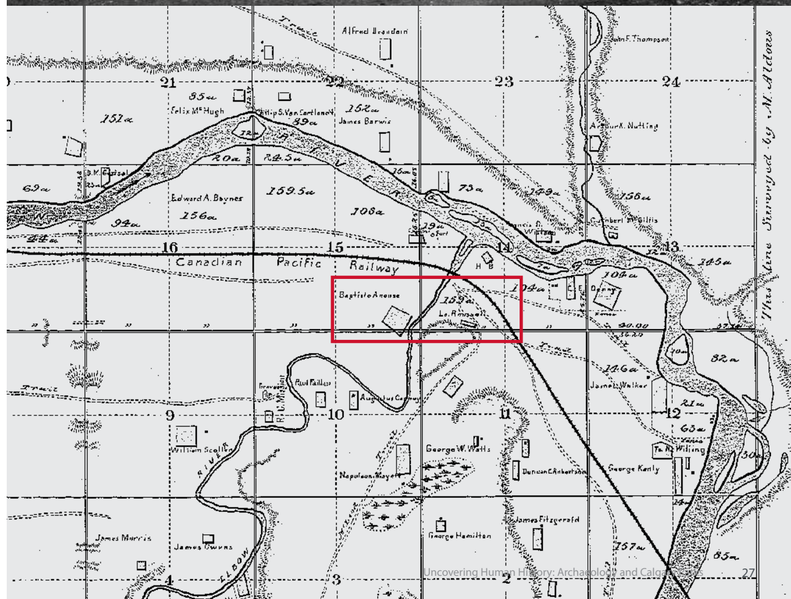
750 9 Ave. SE

The lands now home to the City of Calgary have a long human history and tell stories of a long and distant past. The beginning of Calgary as an urban settlement in the more recent past has continued this narrative with the oft-told tales of Mounties, the Hudson Bay Company, and the CPR at the confluence of the Bow and Elbow Rivers. The area where the Bow and Elbow Rivers meet represents the earliest settlements within what became the City of Calgary and occurred at what was an important stopping place for early First Nations people during the pre-contact period. It was the recognition of the importance of this location that influenced the establishment of Fort Calgary by the North West Mounted Police (NWMP) when they arrived here in September 1873.

Amongst these broader stories are the less well-known contributors to Calgary's history. One such group is the Métis who were among the first to contribute to the new community of Calgary with the establishment of homesteads along the Elbow River near its confluence with the Bow River. An early Township Map identifies the initial Elbow River settlements were originally surveyed as river lots and inhabited by Métis families (Morgan 2014). An 1884 Township map indicates that Métis settler, Baptiste Anouse, was granted land along west side of the Elbow River. Anouse began residing near Fort Calgary in 1875-1876. He broke the land and planted crops and was employed for labour by the Northwest Mounted Police and Roman Catholic Mission. The Rouselle homestead is marked on both the Township map and another historic document, the McVittie survey sketch.

What about physical evidence? Are there archaeological finds that allow a tangible connection to this Métis past? As it turns out, such a goal is challenging. Archaeologist struggle to identify 'Métis' in archaeological sites, although recent research by Kisha Supernant (2019) suggests that the presence of beads is an important cultural hallmark in Métis sites. In addition, archaeological material dating to these times is relatively rare as the inner area of the City, near the confluence of the Bow and Elbow Rivers, was developed and built up well before provincial legislation protecting archaeological sites was enacted. As a result, little of the area has been examined in any kind of detail for archaeological sites. However, it is possible that material traces of their presence exist under a century and a half of historic deposits in this early central area of Calgary.

We need to remember that the earliest stories of Calgary as an urban settlement include pictures and words of Métis settlers that were among the first to homestead near the significant confluence of the Bow and Elbow Rivers. ■



OPPOSITE: Early illustration of Fort Calgary. Photo credit: Glenbow Archives NA-98-3

ABOVE: View Northeast of early settlement east of the Confluence. Louis Rouselle homestead structures in foreground. Photo credit: Glenbow Archives NA-298-2

RIGHT: 1884 Survey Map showing the homestead lands of Baptiste Anouse and Louis Rouselle. Photo credit: Glenbow Archives

Douglasdale/McKenzie Natural Area Parks

8

Archaeologists have conducted excavations in the Douglasdale/McKenzie Natural Area Parks numerous times over the last four decades and have found no less than fifteen different archaeological sites that attest to this area being an important stopping point along the river valley. Sites within the park date as far back as the Early Period (ca. 11,050 – 7,750 years ago), and continue all the way up to the Historic Period (ca. 150 years ago – present). Similar to other locations in the Bow River Valley, archaeological sites are frequently located on terraces above the river. It has been suggested that archaeological sites on these terraces were sheltered campsites, occupied during the winter when bison, a primary food source, sought shelter in the Bow River Valley.

Evidence for the oldest occupation in the Douglasdale/McKenzie Natural Areas can be found at a large site located at the southern extent of the park. Of particular interest to archaeologists was the discovery of a very rare Clovis projectile point, representing one of the earliest known cultural groups that lived in Alberta approximately 11,000 years ago. At the time that the site was occupied, water levels in Glacial Lake Calgary would have been high, but the elevated location of the site on a terrace may have placed it above the lake level. Also discovered at the site were two occupations dating to the Middle Period (ca.7,750 – 1,500 years ago). This occupation contained several fire pits/hearths and concentrations of fire-broken rock/Fire-cracked, as well as stone tools and bone. The recovery of a Besant side-notched projectile point date the occupation to between 2,000 and 1,200 years ago.

Also dating to the Middle Period is a second site, The Bow Bottom Site, immediately east of the Douglasdale/McKenzie Natural Areas. This site is an excellent example of a well-preserved campsite along the Bow River, where eighteen tipi rings were found in a cluster, identified by the presence of large rocks placed in a circular pattern that would have been used to weigh down a tipi hide covering. Each tipi ring had a central hearth, usually associated with fire broken rock. Most artifacts and features found at the site were located within the tipi rings, which is somewhat unusual as that indicates people were staying mostly inside the tipis, suggesting that this site may also have been occupied during the winter. The number of bones recovered also suggests that this site was occupied in the winter, when large communal hunting events were less likely to occur.

A variety of projectile point types were identified at the Bow Bottom Site which archaeologists can use to relatively date the site based on stylistic differences. Pelican Lake projectile points were found in several of the tipi rings, which tells us that the Bow Bottom Site was occupied sometime between 3,600 and 2,100 years ago. However, the majority of identifiable projectile points belonged to the Kootenay Side Notched style, which further narrows down the date of the site between 3,000 and 2,500 years ago, and suggests an influence from groups in the Rocky Mountains.

A third site has remains of both a Late Period (ca. 1,500 – 200 years ago) occupation and Historic Period (ca. 150 years ago – present) occupation. Beneath the remains of an early-20th century homestead, archaeologists uncovered lithic debitage, as well ceramics, fire broken rock, and various tools including choppers, abraders, and projectile points. The main projectile point type was the Plains Side-Notched variety, which dates the site between approximately 550 and 250 years ago in the Late Period. ■

BELOW: **Excavated stone circle at the Bow Bottom site in Douglasdale (2,400 years old).** Photo credit: Lifeways of Canada

Edworthy Park

9

5050 Spruce Dr. S.W.

The archaeology of Edworthy Park includes both pre-contact and historic sites. Thomas Edworthy settled the lands in 1883 and developed market gardens that fed railway workers and those at Fort Calgary during the early years. His farm was most famous for the Shaganappi spud. Many of the workers on the farm were local Tsuut'ina people. Edworthy also recognized Calgary's need for stone building materials and in 1900 he opened four quarries which he managed until 1904, when he succumbed to typhoid fever. Edworthy hired Scottish stone masons and it was rumoured that each evening the sounds of bagpipes filtered through the coulee and river valley. Thomas' wife Mary held title to the lands, including the quarries (leasing them out), until her death in 1934.

Market gardens and quarries weren't the only industry that sprung up in this area. To the west of Edworthy's farm John 'Gravity' Watson operated a smaller quarry and a brickworks called Burnvale. He sold his operation to Edward Henry Crandell in 1905 and moved into politics becoming a Calgary Alderman in 1906 during which time he developed a gravity fed municipal water system which coined him the nickname of Gravity Watson.

Crandell incorporated the Calgary Pressed Brick company in 1905. He was a shrewd business man and had CP rename the nearby whistle stop to Brickburn and an industrial village was created. Brickburn manufactured up to 80,000 bricks a day and employed 100 men. The village had residences, a post office, a cookhouse, a general store, and a church. Bricks from Brickburn were used in the Mewata Armoury, the Lancaster building, and the Capital Theater. The bricks were stamped with 'Calgary' or 'E.H.C' Crandell's initials. Few archaeological studies have taken place at Brickburn to date. But it is believed there is a wealth of archaeological evidence that will provide further insight into the daily activities of the time.

William John Tregillus had land to the west, on the western edge of the current park. He was an early entrepreneur who invested one million dollars to develop a modern brick plant, Tregillus Clay Products, which could produce up to 150,000 bricks a day. Unfortunately, the economic depression of 1913 and the outbreak of World War I forced the closure of the Brickworks.

There are only a few pre-contact archaeological sites recorded within Edworthy Park. This is likely due to the limited amount of development post issuance of the Historical Resources Act. That which has been found, highlight both hunting and habitation on the lands. A large campsite was recorded on the lower flats near the river; however, the site showed signs of previous disturbance, possibly due to the tilling of the land that took place for Edworthy's market gardens. In 1972, the City was excavating a trench for a storm sewer and bison bone was identified in four different layers, the deepest being 12 feet below the surface. An area of repeated bison hunting no doubt, but no further development meant there was no need to examine it further. The most interesting of sites, is a large stone circle that measures 15 feet across. Some archaeologists would classify the site as a potential ceremonial location. When looking at the view of the Bow River valley and Nose Hill in the distance one can understand why such a location may have been chosen for ceremony. ■

OPPOSITE: Buried stone circle at Edworthy Park. Photo credit: Lifeways of Canada

ABOVE: Evidence of quarrying activities at Edworthy Park. Photo credit: Lifeways of Canada

Glenmore Parks

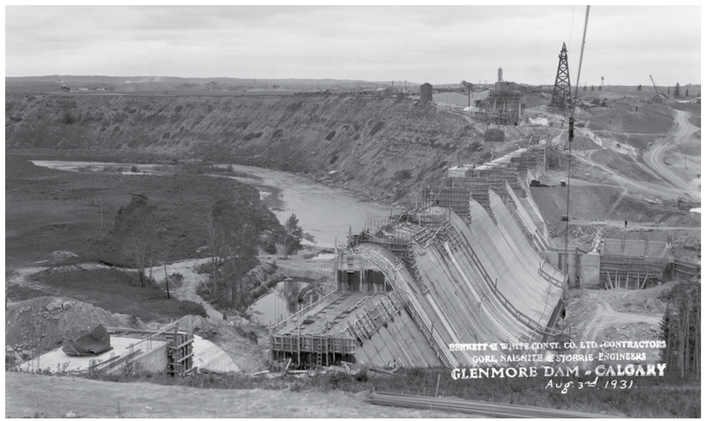
10

North Glenmore: 7305 Crowchild Tr. S.W.
South Glenmore: 90 Ave. and 24 St. S.W.

Our knowledge of past human use of the North and South Glenmore park areas is limited by the presence of the reservoir. Completion of the Glenmore Dam in 1932 and filling of the reservoir happened long before there had been any archaeological survey of the valley. In the less-developed west end of South Glenmore Park, a cluster of campsites on the valley rim extends for over a kilometer, into the Weaselhead. There is also a bison kill and processing site on the mid slopes below this cluster. One of the first sites recorded in Calgary is a bison kill on the slopes below Bayview, observed by Glenbow archaeologist Richard Forbis in 1958.

Most of the sites, while they give us no information about when they were used, do speak to the ongoing activities of daily life. The campsites contain hearths, fire-broken/fire-cracked rock from stone boiling the water for cooking food, scatters of butchered bison and deer bone, and the small stone waste flakes from making stone tools. A few sites contain hide scrapers, used in preparing hides, and other small stone tools.

There may be historic archaeological sites still present here, from the early ranching and farming settlements. Sam Livingston and Jane Howse were among the earliest settlers in Calgary. Livingston left Ireland for the California gold rush, and later worked in the buffalo robe trade in Fort Victoria, where his marriage to Howse in 1865 connected him to an important fur-trading Métis family. They started a successful farm on the south side of the Elbow River in 1875, and named it Glenmore, meaning "big valley" in Gaelic. They were the first to use mechanized farm equipment. The reservoir now covers their farm, but the house was moved and can be seen at Heritage Park. An exhibit on Livingston and Howse in the Mavericks gallery at the Glenbow Museum includes his embroidered elk hide jacket. ■



FAR LEFT: **1883 township survey detail, showing Livingston farm.**
Source: https://calgaryringroad.wordpress.com

LEFT: **Glenmore Dam 1931.** Photo credit: Glenbow Archives
ND-10-93

BELOW: **Stone boiling pit and drying meat.** Illustration: Amanda Dow

Griffith Woods

11

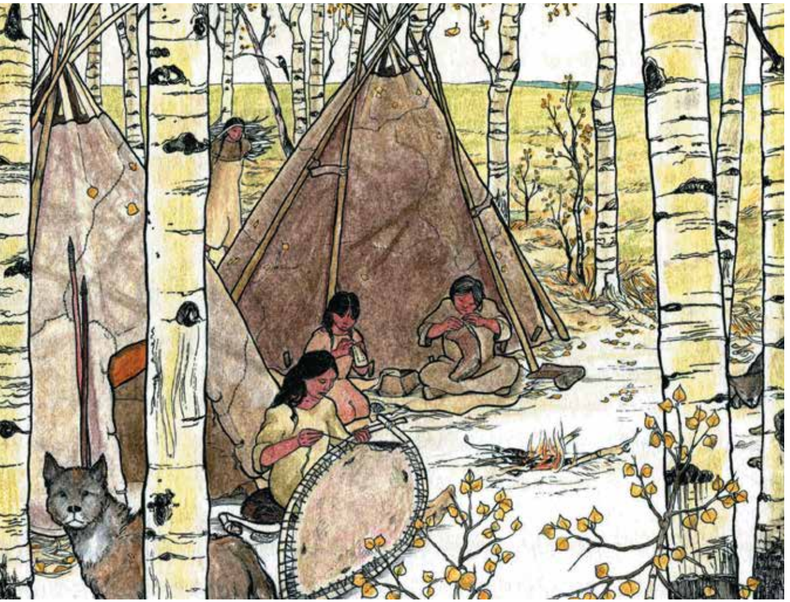
Discovery Ridge Blvd. S.W.

Griffith Woods is located just north of the Elbow River, and this increases the likelihood that there are archaeological sites in the park. Rivers not only provide water for drinking and cooking, but they are also abundant in resources, which draw both people and animals to them. The terrain around rivers usually offers an excellent view to observe approaching animals and were used extensively by pre-contact peoples for resource gathering and hunting. Although the Griffith Woods Park is located in an archaeologically sensitive area, there are no known archaeology sites within its boundaries. Since this area is relatively undeveloped, there has been little need for archaeologists to conduct Historic Resource Impact Assessments (HRIA's), but the 30+ sites within one kilometer of the park attest to this area being well used in the past.

The majority of the sites around Griffith Woods date to the pre-contact period and provide evidence of how Indigenous people utilized this landscape prior to their contact with Europeans. Indigenous peoples in the prairies were mobile, and campsites vary greatly in size and artifact density. Camps used during summer resource gathering activities, may have only been used for a day or two and are quite small. However, winter camps may have been used by multiple family groups for many months and may be quite substantial.

Rivers provided suitable terrain for hunting bison, and five of the sites near the park are designated as killsites. A common bison hunting method at this time was to drive the animals into a built corral, natural barrier or muddy hollow, and then shoot arrows into the milling animals before they could escape. These tactics could kill many animals at once and provide food for whole communities of people. A Side Notched projectile point dating to the Old Woman's Phase (ca. 1,100 – 250 years ago) was recovered from one of these killsites.

In the early 1900's a mass influx of people into the Calgary region increased the need for fresh water for drinking and fire suppression. In 1907, the City of Calgary built a 30-inch wooden pipeline to supply the city with water from the Elbow River. This pipeline was used until 1933. A section of the pipeline was excavated before construction of the Discovery Ridge neighborhood and was registered as an historic resource site. This site is interesting as it highlights the diversity of historical resources, and in the larger context of the other sites in the areas, reinforces the importance of water across thousands of years. ■



LEFT: **Sheltered campsite location.** Illustration: Amanda Dow

Haskayne Legacy Park

12

South end of the Bearspaw Reservoir (east side)

Situated mostly on a wide-open terrace, Haskayne Legacy Park, sits high above the original Bow River water level, which is currently masked by the Bearspaw Reservoir. Much of the land has been impacted by agricultural practises; however, there are pockets of natural fescue prairie. A prime location for a campsite today, this terrace would have been an appealing location during past times. The University of Calgary conducted a city wide archaeological study in the early 1970's and identified a number of archaeological sites within the current park boundaries. These sites reflect habitation landuse across the terrace including both pre-contact campsites and a historic homestead. One pre-contact site, that extends beyond the park boundaries, was reported to contain hundreds of stone circles extending the entire terrace. This would be indicative of repeated use by large multifamily groups. More recent studies have revisited the area and noted several of the stone circles consist of a large number of rocks. Stone circles with thick 'walls' are thought to be representative of winter habitation sites. Artifacts observed at the site reflect domestic activities and include fire-broken/fire-cracked rock, ceramics, and fragmented bone. Based on the stone debitage recovered, people were also making stone tools at this location. While the age of the stone circle site is currently unknown, future studies may provide dating information.

As development progresses and further studies are done, new sites may be identified, and known sites revisited, that may help shed new light into past human activities. When visiting the park, as you descend from the escarpment above imagine a large tipis camp extending along the large terrace with campfires burning, and people going about their daily activities. ■

BELOW: **View southwest of Haskayne Park where stone circles were observed.** Photo credit: Lifeways of Canada.

Inglewood Bird Sanctuary

13

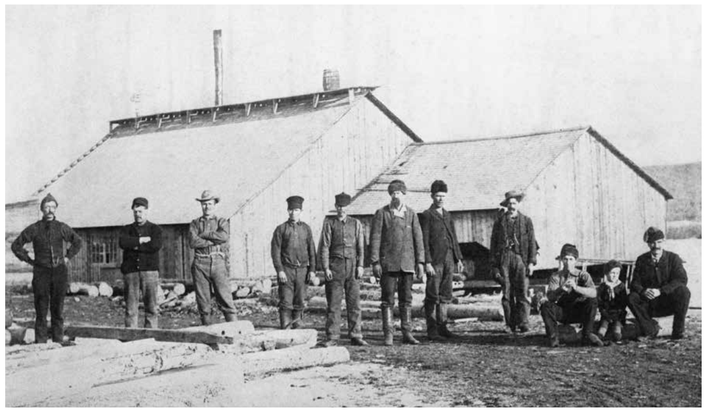
2425 9 Ave. S.E.

In the pre-contact period, the land in and around the Inglewood Bird Sanctuary was used by Plains First Nations as campsites. Along the terrace along the Bow River that is now the Bird Sanctuary, archaeologists have uncovered hearths (campfire remnants). Hearths are typically found at sites that were occupied for weeks to months at a time. Fires were used at all areas of occupation, but short-term campsites typically would not have the build-up of ash and charcoal needed for it to be visible in the archaeological record. Although no tipi rings have been found in the area, it is likely tipis were used for shelter. Stone debitage has also been found, indicating that stone tools, such as projectile points, choppers and hide scrapers, may have been made at the campsites.

We do not know if the campsites at the Inglewood Bird Sanctuary are associated with any bison killsites, but it is likely given the butchered bison bone found in the area. Along the Bow River, Plains people funneled bison into pounds or into swampy areas, where the animals got bogged down in the mud, making them easier to kill using spears and bows and arrows. The bison were then roughly butchered on site before being transported back to nearby campsites, where people processed the hides and dried the meat. Campsites and bison kill areas were not typically close to each other as the campfires and smell of humans would keep the animals away.

In 1883, the Inglewood Bird Sanctuary became home to Colonel James Walker. Walker was a distinguished officer of the North West Mounted Police who, after his retirement in 1881, became a major contributor to Calgary's early growth, operating a ranch, sawmill, and real estate business. His first two homes on the land were carried away in floods. In 1910, he built the red brick house that still stands in the park today.

In 1929, the Canadian Government, at the request of Colonel Walker's son Selby, designated 59 acres of the estate as a sanctuary for migratory birds.



From 1929 to 1952, several Chinese families leased land from the Walkers for market gardens. As Calgary expanded and absorbed more and more farmland, market gardens became an important source of fresh fruits and vegetables for Calgarians. Urban gardens were also a common source of income for Chinese families across Western Canada in the early 20th century. ■

LEFT: **Walker Sawmill, 1880-1883.** Photo credit: Glenbow Archives NA-1478-1

ABOVE: **Inglewood Bird Sanctuary.** Photo credit: The City of Calgary

RIGHT: **Chinese Market Gardens, circa 1940s.** Photo credit: The Koo Family

Nose Hill Park

14

5620 14 St. N.W.

Nose Hill Park is a large area of elevated bedrock upon which layers of sand and gravel have been deposited by repeated advances of thick glacial ice from the east and west. Large stones (erratics) are present along the eastern slopes of the park providing a tangible reminder of where glaciers from the Rocky Mountains (Cordilleran) and northeast (Laurentide) ice sheets once met. About 15,000 years ago, Nose Hill Park was just above Glacial Lake Calgary that resulted from the melting of the glaciers.

Given its prominent position in the landscape, Nose Hill has attracted people for thousands of years. These people have left their mark on the landscape with the things they have left behind. Today, these locations form archaeological sites which include circles of stones (tipi-rings), locations of stone tools and hunting implements, as well as remnants of animals left behind from successful hunts.

One of these is known as the Hawkwood Site and was investigated as a result of the construction of the Hawkwood residential subdivision to the west across Shaganappi Trail. Through that investigation, archaeological remains provide a great deal of information about how and when people lived in the area of Nose Hill. Evidence from the Hawkwood Site tells us people hunted and cooked bison on Nose Hill. Based on these remains, people likely lived at this location in the early spring and used the area for the hunting of individual bison. It is likely that other animals, large and small, and a wide range of plants were also collected on Nose Hill. Sheltered by surrounding ridges, the low area within which the Hawkwood Site was found provided shelter from harsh winds.

Based on the tried and tested combination of radio carbon dates and the distinctive shapes of stone artifacts used to tip spears, darts and arrows, we know people used the area of the Hawkwood Site many times. The earliest identified was as far back as 8,250 years ago. During this time, it is believed people used large spears to hunt animals. Evidence from the site shows the location was used on and off between 6,820 – 6,500 years ago, and again 4,000 years ago. During this time, people made smaller spears known as darts which would be thrown with a carved piece of wood used as a lever. People use a similar tool today to give their dogs a better game of fetch through farther throws. People also camped at Hawkwood between 1,500 – 500 years ago. During this time, people hunted using bow and arrows, which were tipped with stone points even smaller than darts. The evidence from the site suggests the location was used for small hunting camps for no more than a few families. ■

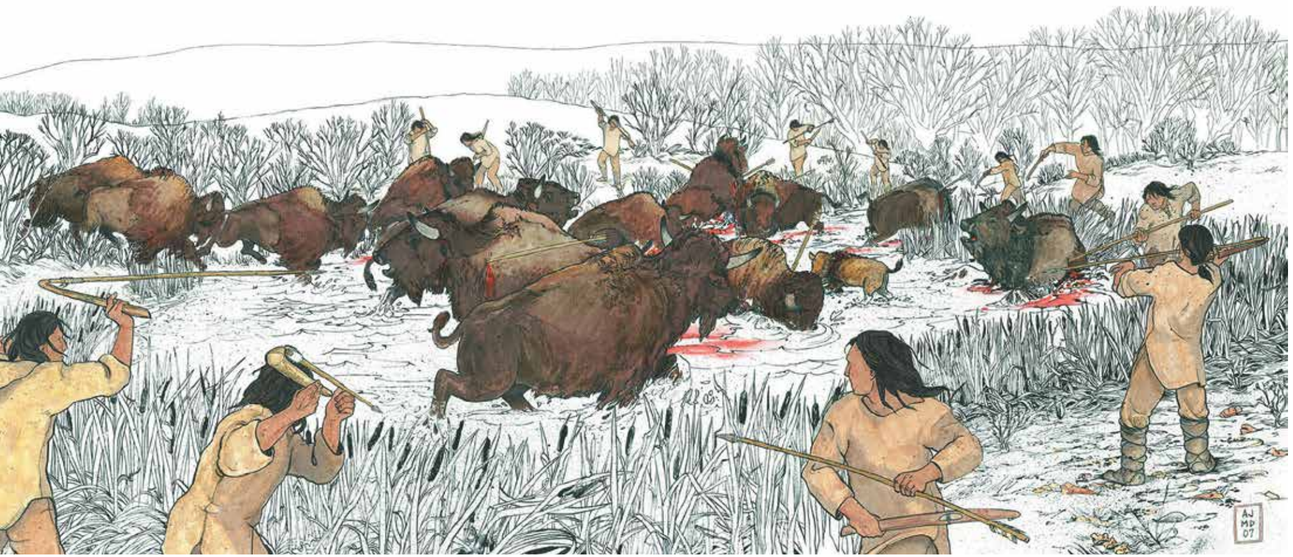
OPPOSITE: **Nose Hill.** Photo credit: The City of Calgary.

LEFT AND ABOVE: **Winter Excavations at the Hawkwood site, 1979.** Photo credit: Lifeways of Canada.

15

Paskapoo Slopes and Valley Ridge Natural Area Parks

Slopes to the east and west of Canada Olympic Park



On Calgary's western edge, there are two areas of archaeological site concentration that reflect specific long-standing repeated land-use patterns. These clusters of sites form the Paskapoo Slopes and Valley Ridge phases, respectively.

The Paskapoo Slopes Phase is represented by a significant concentration of pre-contact sites along the Paskapoo slopes. Most are large bison killsites and associated butchering and processing camps found on the upper benchlands. These sites represent the intentional construction of corrals or traps and repeated use of these throughout one or more winter/spring seasons to trap cow and calf groups. The location of the processing sites along the slopes is associated with the location of the free-flowing springs. These provided water for drinking, boiling, and cooking. In addition, the plentiful supply of balsam poplar (cottonwoods) for building fires and constructing the bison traps—both on the slopes as well as in the ravines—attracted people to this area. In contrast to the sites on the upper slopes, the ridges and benches near the bottom of the slopes are characterized by small artifact scatters and isolated stone cairns. Recent excavations (Vivian and de Mille 2016) suggest that lower slopes may have been used opportunistically or seasonally for activities peripheral to the larger communal-scale hunting represented on the upper slopes.

While some ravine killsites are older than 7,000 years in age, most of the slope and ravine sites date to the last 3,000 years. Artifacts unearthed at these sites indicate communal hunting along these slopes is most associated with the Pelican Lake Phase (around 2,500 years ago). It is now recognized as a single bison hunting 'complex' of Provincial Significance. These sites helped define the Paskapoo Slopes Phase (Reeves et al. 2001) as a local variant of the Pelican Lake Phase, a time when communal bison hunting as a way of life was perfected on the Northern Plains. Archaeologists now recognize the pattern of bison processing and killsites on the slopes as being regionally distinctive.

To the west of the Paskapoo slopes lies the Valley Ridge area that encompasses the 10 metre high terrace remnant above the Bow River. The south edge of this terrace is defined by the toe of the Paskapoo Slopes. Archaeological excavations completed here over the past four decades have revealed a rich history of occupation and resource exploitation along much of this terrace. Interestingly, many of the investigated sites have been found to be associated with the Besant Phase (ca. 2,500 – 1,500 years ago). This led to the formulation of the Valley Rim Subphase, a local expression of the Besant Phase, by Reeves et al. (2001). Unlike the earlier bison hunting on the upper Paskapoo slopes, the Valley Rim Subphase appears to involve land-use patterns, centered on hunting and killing bison on the wide benches and lower slopes along the edge of the Bow River and wintering on the adjacent lower river terraces, in locations which provided shelter and ready supplies of wood and food resources. ■

OPPOSITE: **Early Middle transition period bison kill.** Illustration: Amanda Dow

LEFT: **Archaeologist mapping a bison bone bed at a site excavated at Paskapoo.** Photo credit: Lifeways of Canada

Pearce Estate Park

16

1440 17A St. S.E.

Pearce Estate Park occupies low-lying wetlands along a prominent bend in the Bow River. To date, no known archaeological sites have been recorded within Pearce Estate Park partially due to archaeological surveys not being common before the 1980s. We know, the Bow River was an important travel corridor for pre-contact Indigenous groups, as were Nose Creek and the Elbow River, which join the Bow just west of Pearce Estate Park. It is believed that people typically travelled on foot until the horse was introduced.

As seen in other parks, past inhabitants hunted bison herds throughout the Calgary area for thousands of years. As a result, archaeological sites dot the landscape in and around Calgary including in areas similar to the landscape seen within and adjacent to the Pearce Estate. Pre-contact campsites have been identified down river, on a higher terrace, near the Inglewood Bird Sanctuary and it is possible that the lands within the park may have seen similar use. Alternatively, wetlands could have attracted animals and at times may have been used as ambush locations during a hunt.

Historic artifacts and structures, such as glass bottles and pressed bricks, as well as remnants of homes built between 1912 and 1920 have been found in the immediate area. The park land was settled by William Pearce, who enjoyed a successful career as a federal land surveyor before moving to Calgary in 1884, where he served as Superintendent of Mines for the Department of the Interior. Before his death in 1930, Pearce donated his estate to the City of Calgary to be preserved as a park. ■

LEFT: **William Pearce House (Bow Bend Shack).** Photo credit: Glenbow Archives NA-3898-2.

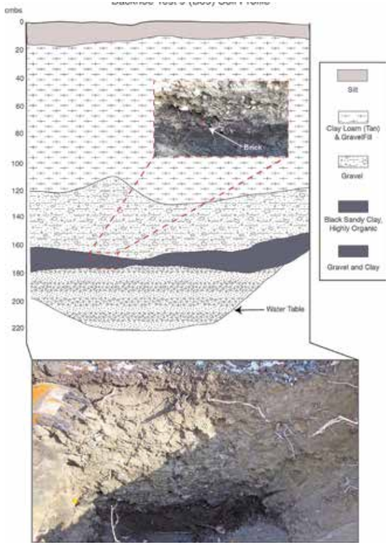
Prince's Island Park

17

4 St. and 1 Ave. S.W.

In the late 1800's, the primary use of the island, and also the source of its name, was associated with the Eau Claire and Bow River Lumber Company, managed by Peter Prince. Archaeological sites identified in the park are associated with the sawmill industry. The company's mill was built, in 1885, on the south bank of the Bow River adjacent to the island, with channel improvements between the island and the bank taking place in 1886. The channel, along with booms installed further upstream near Louise Street bridge, were used for funneling of the logs to the mill. Coincidentally, remnants of these early log driving booms are what, in part, creates the river rapids below the Louise Street bridge that many Calgarians use for surfing, paddle boarding, and kayaking today.

The first log run down the Bow River was in 1887, and ran periodically until 1944. During this time, the east part of the island itself was used to store lumber and waste material, such as sawdust, which was sold commercially for other uses. Recent archaeological studies uncovered a historic refuse pile that was in use at the time the sawmill was in operation. A number of bottles have an 'owens scar' on the base reflecting an early machine-made bottle. The Owens Automatic bottle machine was patented in 1903. That feathered circle on the base (owens scar) is made by the action of the shears cutting the cooling glass from the rest of the molten glass. Early bottles have the most pronounced scars. ■



FAR RIGHT: **Stratigraphic profile of backhoe test.** Photo credit: Bison Historical Services

ABOVE: **Examples of early machine made bottle base recovered from Prince's Island.** Photo credit: Bison Historical Services

Quarry Park
Natural Area Parks

18

The Bow River valley and its resources have been intensely utilized for centuries. The valley provided vegetation for food and medicine. It also allowed people to hunt for large and small game that provided food, hides for clothing and tipi coverings, and horns and antlers used to develop tools. We can expect to find archaeological evidence for these earlier human occupations in Quarry Park.

Archaeologists working in the park have located two sites, with an additional 12 sites having been identified in the surrounding area. There are a variety of different site types, including campsites, killsites, stone features, and small scatters of artifacts, though campsites are the most common.

Excavations have uncovered evidence of a buried campsite in Quarry Park dating to the Middle Period (ca. 7,500 – 1,500 years ago). The site had some disturbances prior to archaeological excavations, though several features were still intact, including a stone circle (likely a tipi ring). One hearth was found in the center of the stone circle, as well as a dump of fire broken rock along its margin; two external hearths were also uncovered at the site. Artifacts recovered include hide scrapers and choppers which are generally associated with food and animal hide preparation. Scrapers were used to remove excess tissue from the inside of a hide after removal. Choppers, on the other hand, helped in removing choice cuts of meat. A large scatter of stone debitage was uncovered in association with one of the hearths just outside of the stone circle, suggesting someone was sitting by the warmth of the fire while making or refining a stone tool.

One slightly unusual observation was the complete lack of animal bones at the site; this could mean that the site was used as a temporary winter campsite, when people relied on previously processed food such as pemmican instead of hunting for prey, or it could simply be that any animal bones had been removed from the site by previous disturbances including flood events.

One McKean Phase projectile point that was uncovered in Quarry Park. In addition, charcoal found in association with the central hearth was used for radiocarbon dating, and placed the age of the site at approximately 3600 years ago. Other tools uncovered at the site include bifaces (cutting tools) and spokeshaves (crescent shaped tools for straightening spear and arrow shafts). The projectile point was manufactured from obsidian, which was sourced to either Yellowstone National Park in Wyoming, or Bear Gulch in Idaho; showing the occupants of the site had some level of interaction with foreign groups. ■

RIGHT: **Winter camp site representation.** Illustration: Amanda Dow

BELOW: **Quarry Park rock rings.** Photo credit: Lifeways of Canada

Sandy Beach and River Edge Park

19

4500 14a St. SW

The Elbow River, much like the Bow River to the north, was an important travel corridor for humans, and their prey, for millennia. Evidence for past human use and occupation of the Elbow River Valley comes from buried archaeological sites, of which there are currently two known sites in Sandy Beach/River Edge Park, with an additional six sites located in the surrounding area. There are a variety of different site types located around the parks, including campsites, stone features, and scatters of artifacts, though campsites are the most common.

Archaeological work in Sandy Beach and River Edge Park shows these areas were occupied during the pre-contact period into the Historic period, as demonstrated by a nearby archaeological site. Evidence for pre-contact period use is represented by a campsite that was identified by the presence of fire-broken rock at the site. Fire-broken rock is often associated with hearth features, and suggests that people would have stopped in this area rather than simply travelling straight through. No tipi rings were uncovered within the parks, though they have been found at nearby sites. The majority of artifacts uncovered in the park are bison and other mammal bones, as well as a scatter of stone debitage.

Sandy Beach may have been the location of a late 19th century whiskey trading post- the Elbow River Post. The Whiskey Trade in Alberta began in 1869 with the establishment of what would become Fort Whoop-Up (at the Junction of the St. Mary's and Oldman Rivers near Lethbridge) and ended with the arrival of the North-West Mounted Police in 1874 (Kennedy and Reeves 1984). Archival research indicates that one post, the Elbow River Post, was reported as being established on the north side of the Elbow River, approximately five kilometres upstream of its confluence with the Bow River. If traced back upstream along the Elbow River, this places the post in the general area of the Calgary community of Altadore or Sandy Beach. Research reveals that the Elbow River Post was established in 1871 by Henry Alfred "Fred" Kanouse who was sent by John J. Healy and Alfred B. Hamilton of the influential and well-established Fort Whoop-Up (Kennedy and Reeves 1984). The actual location of the Elbow River Post is unknown and only future archaeological investigations are likely to solve this mystery. ■

LEFT: **Smuggled whiskey found in hog carcasses, 1912.**
Photo credit: Glenbow Archives PA-331-10

Simon's Valley Natural Area Parks

20

A number of small coulees mark the locations of perennial springs that have carved the landscape in Northwest Calgary for thousands of years. The coulees cross the residential area dubbed Simon's Valley, which is made up of the two communities of Sherwood and Kincora. These perennial springs drain into West Nose Creek and combined would have made up the major water sources of the immediate area. A group of parks in both Kincora and Sherwood have preserved a series of early killsites that tell a story of small-scale hunting practices. Although there is a long history of occupation and resource exploitation in this area, there is a particular emphasis on small-scale kill events from between 8,000 and 4,000 years ago (Middle Period) in these side coulees (Vivian 2007). These sites represent the killing and processing of small groups of bison in the floors of these coulees.

West Nose Creek to the east of the park, along with the perennial springs throughout Simon's Valley, were the major sources of water in this area. As bison moved single file along these coulees, archaeologists suggest that hunters could have easily ambushed the animals.

More than 15 killsites, some showing thousands of years of use, have been recorded along these coulees and the shallow gulley's adjacent to the coulees themselves. Several of the killsites include non-bison bone, such as wolf or coyote and deer, reflecting the opportunistic nature of some of these kills.

Small campsites have also been identified in the area and appear to be short term camp and processing sites associated with the kill events occurring in the adjacent coulees. The artifacts recovered from these temporary camps are distinct in that there are limited amounts of stone debitage, few fully formed stone tools, and highly fragmented bone. Such assemblages suggest people were onsite for a very short period of time.

This seasonal supplement of the food supplies would have been critical for early, mobile families. Archaeological sites that could not be preserved in parkland were excavated, as required by provincial legislation, leading to much of the information known about pre-contact human landuse of the area. ■

ABOVE: **Bison processing in sheltered coulee.**
Illustration: Amanda Dow.

St. Dunstan's Industrial School

21

West side of Bow River, south of Bonnybrook

The St. Dunstan's Industrial School site still has some physical archaeological remnants of the site, including a partial foundation. However, the significance of the site lies with the original intent and may provide a location for Calgarians to bear witness to the treatment of Indigenous peoples during the settlement of western Canada.

In the late 1800's as settlement of the west continued and European Industrial practises were brought along. The government, in conjunction with religious diocese, established industrial schools for Indigenous children. Industrial schools were meant to teach older kids 'productive' skills that would help them succeed in 'society'.

St. Dunstan's Industrial School was opened in December of 1896 and closed eleven years later in 1907. The first class consisted of 19 boys; however, there was room for a total of 40 at the school. Enrollment peaked at 46 students. The school was to offer half-day of classes with the remaining half-day spent learning industrial work such as carpentry, farming, livestock management, and gardening. However, in order to maintain the school the boys were tasked with household duties such as laundry, baking, and mending reducing the overall time available for study. In 1903, a printing press was provided to the school on condition that it printed a monthly Calgary diocesan magazine. This allowed the school to include printing as a productive skill for students to learn (DIA Annual Report 1903).

The school's attempts to assimilate went beyond the studies and industrial skill development. Students were required to wear military-like uniforms, had an 'English only' rule, and were taught Euro-Canadian games such as soccer, cricket, shuffle board, and chess. As outlined in one of the Department of Indian Affairs (DIA) annual reports the Principal felt Canadian games were worthwhile to the assimilation process and noted when soccer teams came to play games with the student, that "*the boys take pride in thinking that they are being treated like human beings, and the indirect education they acquire from mixing and contact with White people is incalculable.*"

Several prominent graduates of the school wrote of their time in memoirs while others did not share the experiences publicly. Senator James Gladstone, Ben Calf Robe, Mike Mountain Horse, Johnny One-Spot, Joe Big Plume, Jim Starlight, Haughton Running Rabbit, and Joe Mountain Horse all spent time at St. Dustan's and went on to become war heroes, influencers, Band Chiefs, and members of government.

Like many of these early school's tuberculosis and other illnesses were rampant. Typically, when students fell ill, they were sent home. Seventeen year old Jack White Goose Flying, died suddenly of tuberculosis in 1899 before he could be transferred home. The boys built a grave for him, covered in stones and surrounded by a white picket fence. It remained at this location until 1971 when his remains were re-interred at Queen's Park Cemetery. Research has uncovered that at least ten students died while attending the Calgary Industrial school; however, grave locations have never been found. ■

BELOW: **Students and staff at St. Dunstan's.** Photo credit: Glenbow Archives NA-75-2

Weaselhead Flats

22

37 St. S.W. and 66 Ave. S.W.

ABOVE: **Depiction of travel along the trail at Weaselhead.** Photo credit: Glenbow Archives PA-1004-18

RIGHT: **Projectile points recovered from a site in the Weaselhead.** Photo credit: Stantec

The Elbow River valley was a focus for human use in the past. It served as a travel corridor for both people and game animals, provided sheltered camping areas on the river banks, and a variety of plants for food and medicinal uses. A significant cluster of Late Period campsites is present along the high south rim of the valley at the prairie level, stretching continuously for a kilometer. On the slope below is a bison kill and processing site, where people took advantage of a small gully and the level area below to trap and butcher bison. A substantial amount of burnt bone was found at a depth of 50 cm below surface here, along with fire-broken rock.

There has been little archaeological field work in the Weaselhead. Sites that were seen in surface exposures in 1970 were not examined again until 40 years later, during work for the proposed ring road. There have been no substantial excavations, so our knowledge of the sites is limited to surface finds and small shovel tests.

There are no sites dated to the Early or Middle Period. One of the valley rim campsites has a Besant atlatl point (ca. 2,000 – 1,250 years ago) and a partial stone tipi ring feature. The Besant time period is well represented by bison kills and tipi ring campsites throughout Calgary, including a large bison killsite at Twin Bridges farther upstream on the Elbow River. Besant people wintered in the foothills and mountain front, and summered in the high plains. The Weaselhead campsites have scatters of butchered bison bone, fire-broken/fire-cracked rock from hearths or from stone boiling, distinct hearth pit features, burnt bone fragments from cooking, and scatters of the waste flakes from making stone tools. Individually, each site does not have a large number of artifacts, but together they show a pattern of ongoing use of the Elbow River valley rim in the Late Period (ca. 1,500 – 200 years ago).

The Tsuut'ina Reserve was established in 1883, after the signing of Treaty 7 in 1877, and originally included the Weaselhead. The Tsuut'ina recognize traditional use areas in the valley bottom and on the upper terraces in the Weaselhead, for activities such as trapping beaver, hunting bear and deer, building sweat lodges, and collecting medicinal plants. The City of Calgary bought the Weaselhead in 1931, to protect the headwaters of the Glenmore Reservoir.

The Canadian military leased the northeast portion of the Tsuut'ina Reserve from 1910 through 2006. Camp Sarcee served as a training place for the Canadian Expeditionary Force in the First World War. Historic features related to military training, such as fox holes and earthworks, can still be seen in the Weaselhead valley. ■

Archaeology vs. Palaeontology

Archaeology is the study of the human past as revealed by artifacts and debris from past activities, while palaeontology is the study of ancient life (plants and animals) as revealed in the fossil record.

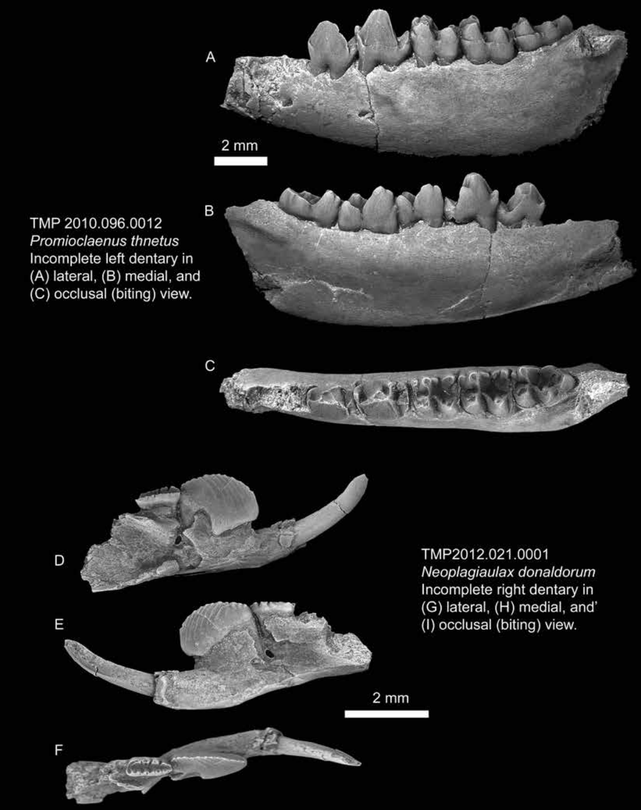
Palaeontology has enjoyed a long history in Calgary. Fossils have been discovered in all quadrants of the city, and although these have been not as newsworthy as those from the Drumheller and Dinosaur Provincial Park areas, they are nonetheless crucial to understanding life during the first several million years after the extinction of the dinosaurs some 66 million years ago. Fossils from the Calgary area have been known since the late 1800s, but the first notable specimen to have been published was in 1926, when the tooth of a Paleocene (ca. 66 – 55 million years ago) mammal was reported from a site along the Elbow River. Since that time, dozens of additional localities (palaeontological site), and thousands of specimens, have been discovered.

Unlike the vast expanses of fossiliferous badlands that characterize parts of southern Alberta, rock exposures in Calgary are limited to natural outcrops (e.g., along the banks of the Bow River) and man-made exposures (e.g., ski jumps at Canada Olympic Park), so fossil discoveries are accordingly rare. Southern Alberta is renowned for its dinosaur-bearing Cretaceous age rock, but Calgary sits atop a thick sequence of Paleocene age rock (ca. 66 – 55 million years old), representing a time period soon after the dinosaurs went extinct. At that time, Calgary enjoyed a subtropical climate, with a landscape dominated by lush vegetation, slow moving rivers, and a diverse vertebrate fauna (birds, fish, amphibians, reptiles, and mammals). Fossils from several localities in Calgary, including those in Edworthy Park, Canada Olympic Park, and along the Elbow River, suggest that the area was inhabited by thick forests of redwood-like trees with a variety of life forms present. Fossils suggest that fish, salamanders, turtles, crocodiles, and an astonishing assortment of small mammals inhabited the Calgary landscape 66 to 56 million years ago. Distant relatives of modern ungulates (e.g., deer, horses, camels, etc.) and primates (proto-primates are similar to squirrels and tree shrews in size and appearance). In addition to the distant relatives of animals that we may recognize today, the fossil record also reflects bizarre forms that have no living relatives (e.g., rodent-like animals called multituberculates).

Glaciation and erosion removed a great deal of post-Paleocene age rock in southern Alberta. As a result, there is a gap in the fossil record of Calgary between 55 million and 13,000 years ago. Fossils recovered from the end of the last Ice Age, 11,000 to 13,000 years ago suggest the climate was cool and dry. These fossils collected at outcrops along the Bow River and discovered during gravel pit excavations, indicate that large herbivorous (plant eating) mammals, including camels, horses, and mammoths, roamed the region, and may have been preyed on by American lions and cave bears. The youngest parts of the fossil record in Calgary are from Holocene (ca. 11,650 years ago to present) deposits, and include freshwater and terrestrial mollusks (e.g., snails and slugs), as well as the remains of large herbivores, including bison and horses, and many smaller animals. These animals would have been valuable food sources for Alberta's first peoples. ■

LEFT: **An area along the river where the tooth of a Paleocene (ca. 65-55 million years ago) mammal was found in 1926.** Credit: Royal Tyrrell Museum of Palaeontology, Drumheller, Alberta.

RIGHT: **Fossilized jaw bone of an extinct rodent like mammal (note the large fan shaped teeth).** Credit: Royal Tyrrell Museum of Palaeontology, Drumheller, Alberta.



Explore conservation

Archaeological sites are finite resources and are protected by law. Natural erosional processes, urban and suburban development, natural disasters, and vandalism, can impact existing and yet-to-be discovered archaeological sites. Any disturbance to an archaeological site area, known or otherwise, permanently distorts the archaeological record. Disturbances can be large like earthen works, or they can be small like a person removing individual artifacts. Once context is lost it can be very difficult for Archaeologists to analyse what is left, ultimately losing the untold stories that site has to share.

Be a volunteer archaeologist

Public archaeology programs offer volunteers the opportunity to engage with professional archaeologists, be out in nature, and get their hands dirty while helping to uncover Alberta's history. Opportunities are posted by the Archaeological Society of Alberta and the University of Calgary Department of Anthropology and Archaeology.

Attend a talk or event

Many Calgary-based organizations offer opportunities for the public to discover archaeology, explore human history, and step into parks. The Archaeological Society of Alberta–Calgary Centre offers a speaker series that explores a wide-range of archaeology-related topics and conducts fieldtrips to sites across southern Alberta. For over 50 years, the Chacmool Archaeological Association at the University of Calgary has hosted a conference each November and invites people of all archaeology-related interests and backgrounds to attend. The Chinook Country Historical Society puts on Historic Calgary Week each fall and runs events throughout the year. The City of Calgary offers a variety of courses, programs, and special events throughout the year that celebrate our parks and green spaces, promote environmental stewardship, and explore the wonders of nature.

Report an archaeological find

The City of Calgary works to conserve our cultural heritage for the future. You can help preserve Calgary's rich archaeological record too by reporting any artifacts that you may have found.

Whether found on public or private lands, the Province of Alberta owns all archaeological and palaeontological resources and any investigation of these resources requires a permit issued by the Province. If you encounter what you believe to be an artifact or site within a park, the City of Calgary asks that you:

1. Appreciate it.
2. Leave it.
3. Report it.

Report an archaeological find by visiting:

https://www.alberta.ca/report-archaeological-find.aspx/archaeological-discoveries/

OPPOSITE: **Fieldtrip to the British Block Cairn at Suffield, Alberta. The largest known Cairn and medicine wheel in Alberta.** Courtesy Don Hanna and the Archaeological Society of Alberta—Calgary Centre.

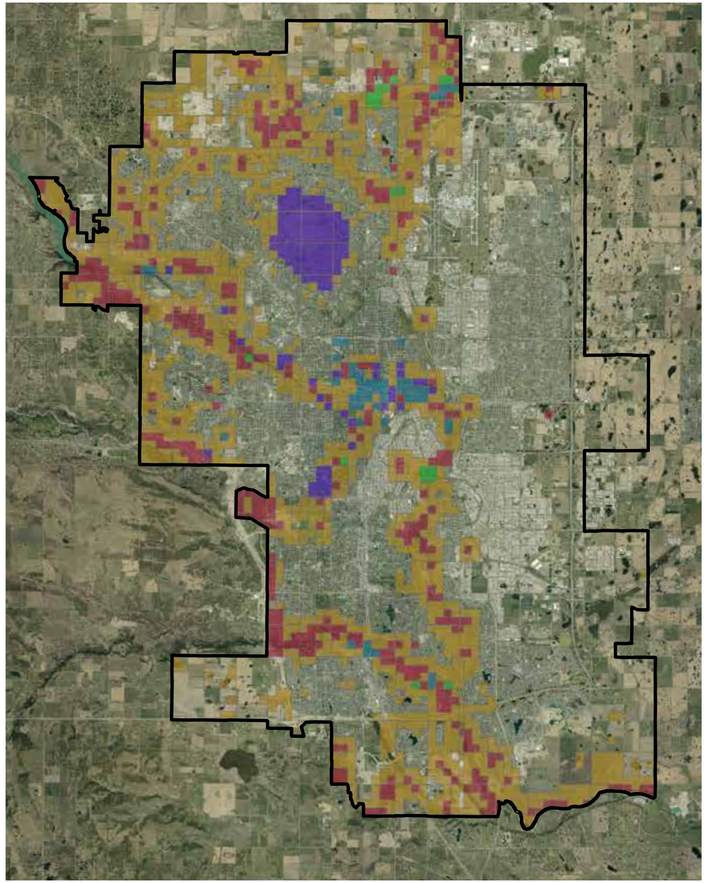
Role of development

In Alberta historic resources are governed by provincial legislation, the Historical Resources Act, which has been in effect since the early 70's. The Act applies to both freehold and crown lands. Most types of development activities are required to obtain approval prior to ground disturbance. Therefore, all individuals that work within land development have the responsibility to protect Alberta's historic resources.

The government of Alberta's website contains documentation that clearly outlines what projects require approval and how to determine this. This information can be found by searching "Historical Resources Act Approval" on the Province of Alberta website.

The Listing of Historic Resources is one of the key tools in determining if there are historic resource concerns with a given project area. The Listing can be downloaded from the website in various forms (PDF, Excel, and ArcGIS shapefile). Links to download the listing can be found by searching "listing of historic resources" on the Province of Alberta website.

All Historical Resources Act approvals are subject to Section 31 of the Act "person who discovers a historic resource in the course of making an excavation for a purpose other than for the purpose of seeking historic resources shall forthwith notify the Minister of the discovery."



RIGHT: **The Listing of Historic Resources, June 2019. City of Calgary coverage. The Listing is care of Alberta Culture, Multiculturalism, and Status of Women.**

Glossary

Archaeology – is the study of the human past.

Archaeological site – archaeologists have defined different site types based on what is found at them and what activities were taking place. There are isolated finds that consist of single artifacts, scatters that can include a small number of artifacts or many, campsites that reflect habitation and daily activities, stone features that represent stone circles, cairns, or effigies, killsites (of various types), rock art, stone quarries, and workshops where the only activity represented is stone tool production.

Artifact – is an object manufactured, used, or otherwise manipulated by humans.

Atlatl – a Middle Period (ca. 7,750 – 1,500 years ago) spear throwing tool which was used to propel spears and darts further, faster, and with greater accuracy and better leverage than could be attained by hand alone.

Borden number – is a unique designation/naming code for archaeological sites recorded across Canada. The codes consist of four letters and a number. The Borden Blocks that encompass Calgary are EhPn, EhPm, EhPl, EgPn, EgPm, EgPl, EfPn, EfPm, and EfPl.

Bison/Buffalo jump – jumps are a type of killsite where bison were intentionally driven off large cliffs to their death.

Bison/Buffalo pound – a corral constructed of piled logs covered with hides. Pounds are a type of killsite where bison were driven into the constructed corral where they were killed.

Campsites (habitation sites) – a type of site that reflects habitation and domestic activities of the time.

Cairn/stone cairn – is a stone feature site consisting of an accumulation of cobbles or other stones created by Indigenous people for a variety of purposes. Some may have been trail signs, deadfall traps, commemorative markers or graves, or part of drive lines associated with bison jumps. Cairns vary in size but are generally circular, and can consist of only two or three stones, or be built up quite high and consisting of hundreds of rocks.

Debitage – is the waste by-product produced during the manufacturing of stone tools (flintknapping) and includes stone flakes and shatter.

Fauna/Faunal remains – fauna describes animal life found in a particular region while faunal remains describe animal bones found at an archaeological site.

Feature – refers to a non-moveable element of an archaeological site. A hearth (remnants of a campfire) is an example of a feature that provides information about the site but cannot be collected and removed from the site and maintain its context.

Fire-broken rock (FBR) / Fire-cracked rock (FCR) – rocks that have been cracked or broken by deliberate heating (e.g. a by-product of stone-pit boiling).

Flintknapping – is the process of manufacturing stone tools. Debitage is the by-product of flintknapping.

In situ – an artifact in the position or location in which it was originally deposited.

Killsite – a type of site that reflects big game hunting events (usually bison). Types of killsites include bison jumps, pounds, or could represent a single opportunistic hunt.

Lithic – means stone. In an archaeological sense, the term used to describe culturally modified stone materials found in archaeological sites. Lithics can refer to the combined assemblage of stone materials recovered at a site, including debitage, raw material fragments, and the actual stone tools themselves.

Material culture – physical objects created and/or modified by humans that make up a culture.

Medicine wheel – a ceremonial site consisting of a large and complex circular arrangement of cobbles or boulders. Medicine wheels sometimes have central cairns and/or spokes. Some medicine wheels continue to be used by Indigenous people today for ritual activities.

Occupation – part of site (usually a layer) that appears to have been used during a single event or time period by a group of people. An occupation represents a discrete slice of time, whereas a component may represent several occupations.

Palaeontology – is the study of ancient plants and animals (fossils).

Projectile point – the top or "point" of a thrusting or throwing spear or arrow – often referred to as "arrowhead." The type of point can be attributed to time periods based on the size and shape. Spearheads are found during the Early Period (ca. 11,050 – 7, 750 years ago), atlatl dart tips are typically found in the Middle Period (ca. 7,750 – 1,500 years ago) and arrowheads are associated with the Late Period (ca. 1,500 – 200 years ago). Projectile points were made of chipped stone and with the arrival of trade goods, occasionally iron or copper.

Stratified/Stratigraphy – layers of sediment that accumulate and develop in certain areas over time.

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