

CHAPTER 17

Out of the Muskeg: Projectile Points from British Columbia's Northeast

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Introduction

In this chapter we propose a projectile point sequence for the Northeast of British Columbia by reviewing both previous research in the region and ongoing cultural resource management studies on behalf of hydroelectric and oil/gas developments. While the aboriginal use of projectile points in northeast British Columbia demonstrably spans the last 10,500 years of prehistory, a concise projectile point sequence for the region has proven to be elusive. As has been said, “stylistically distinctive artifacts are insufficient to allow one to make confident statements about the sequence of temporally diagnostic artifacts or comparisons with archaeological sequences from neighbouring regions” (Driver et al. 1996:276). Unfortunately, the paucity of investigated, stratified archaeological sites in this region forces researchers to compare assemblages with projectile point styles documented from neighbouring regions. Paleoindian projectile points have been recovered from Charlie Lake Cave, Pink Mountain, and a handful of other localities. Subsequent periods are defined by comparing projectile points to those found in neighbouring regional sequences including the southwestern Yukon Territory (Workman 1978; Hare 1995), southwestern Mackenzie Territory (Millar 1981; Morrison 1984, 1987), and the Northern Plains of Alberta (Vickers 1986). We recognize a three-fold temporal division of prehistory for this region: the Early Prehistoric (10,500 to 7500 BP) period, which begins with the earliest occupation of newly-deglaciated lands after

the Pleistocene, the Middle Prehistoric (begins variably around 7500–7000 BP to 3500–2500 BP) and Late Prehistoric (3500–2500 BP to contact).

Geographic Focus

The study area is the northeastern portion of British Columbia, defined as those parts of the province within the Peace, Mackenzie, and Liard River drainage basins (Figure 1). The border between British Columbia and the Yukon and Northwest Territories defines the northern boundary, and its eastern boundary conforms to the British Columbia–Alberta border. The southern and western boundaries are defined by the Liard–Yukon, Liard–Pacific, and Peace–Fraser drainage divides. The study area includes the Rocky Mountains, the plains and plateaus of the Peace River District east of the Continental Divide, the Rocky Mountain Trench (or Omineca Trench), and the Omineca Mountains to the west.

Summary of Data Sources

The study area is situated within the Western Subarctic Culture Area (Clark 1981, 1991). Only a sketchy record of pre-contact settlement and occupancy has been reported by archaeologists. Site excavations with stratigraphic deposits associated with radiocarbon dates, are few in number, so the findings of the present study must be interpreted partly in the context of archaeological excavations that have taken

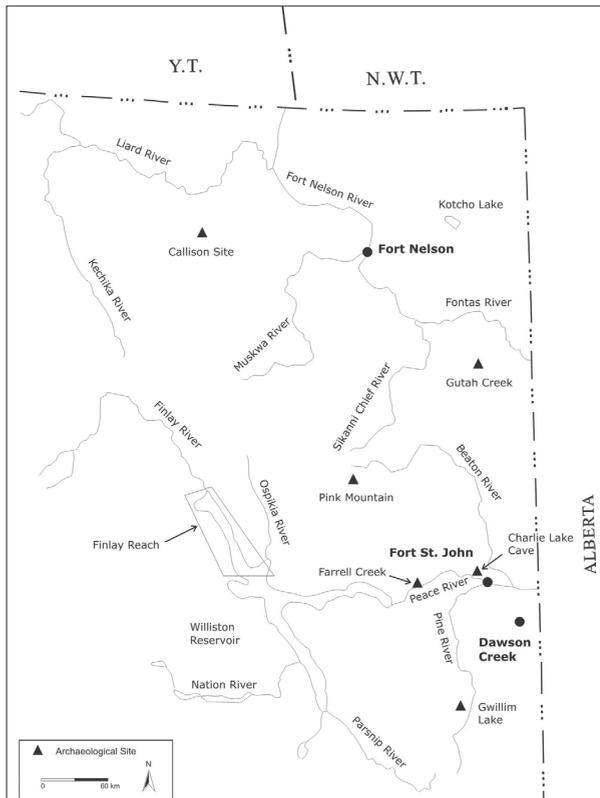


Figure 1. Study area showing selected archaeological sites and localities in northeast British Columbia.

place in neighbouring regions. Though some of the earliest scientific investigations in the northern interior of British Columbia were conducted within and adjacent to our study area (e.g., MacNeish 1960), the principle data sources for developing a chronological sequence of projectile points for the study area are the reports from seven investigated sites: the Callison Site (IeSh-1) (MacNeish 1960); the Pink Mountain Site (HhRr-1) (Wilson 1989, 1996); HkRo-2 (Heritage North Consulting 1994); Charlie Lake Cave (HbRf-39) (Fladmark et al. 1988; Driver et al. 1996); Farrell Creek (HaRk-1) (Fladmark 1975; Spurling 1980); Gutah Creek (HkRe-1) (Heritage North Consulting Limited 2004), and the Gwillim Lake Site (GiRi-4) (Ball 1978). Information summarizing the results of radiocarbon dates from some of these sites are displayed in Table 1. In addition to these sites, reports from a number of non-excavation and/or cultural resource management projects in the study area are also used to provide information about projectile point occurrences (e.g., Fladmark 1981; Arcas Consulting Archeologists 2004; Western Heritage Services 1996, 1997, 1998; Wilson 1996).

Reports on archaeological investigations adjacent to northeastern B.C were used as sources of comparative data, among which Workman (1978), Millar (1981), Helmer (1977), Fladmark (1985), Gotthardt (1990), and Hare (1995) were the most important. Lastly, regional syntheses prepared by Clark (1991) and Vickers (1986) were used for wider comparisons to the Western Subarctic and northern Plains regions, respectively. Tables 2 and 3 summarize the projectile points and Figure 2 gives the cultural sequence for these regions.

Charlie Lake Cave (HbRf-39)

A detailed sequence of pre-Contact cultures has not been developed for northeastern British Columbia, but a partial cultural chronology for the Peace River District (i.e., Fort St. John and environs) is based on excavations at Charlie Lake Cave (Fladmark et al. 1984; Fladmark 1996; Handly 1993; Driver et al. 1996). Together with the later cultural sequence at Farrell Creek (Spurling 1980), these are the most thoroughly dated, stratified sites in the entire region. Charlie Lake Cave (HbRf-39) is situated at the southeast end of Charlie Lake approximately 9 km northwest of Fort St. John, overlooking the Stoddard Creek Valley. Though cultural materials are relatively sparse in the cave itself, most of the Charlie Lake Cave sequence was established by excavations of the 'platform' between the mouth of the cave and the parapet. The site was discovered by Knut Fladmark in 1974 and is the iconic archaeological site for northeastern British Columbia, with an occupation spanning approximately 10,500 years.

The Early Prehistoric Period

Driver et al. (1996) define the Early Period at Charlie Lake Cave from 10,500 to 9500 BP, delimited by a series of radiocarbon dates (Table 1). The site has yielded a diagnostic Paleoindian projectile point (Figure 2) and butchered bison bones in a stratigraphic zone radiocarbon-dated between $10,770 \pm 120$ and 9990 ± 150 BP (Driver et al. 1996; Fladmark et al. 1988). Charlie Lake Cave remains the only excavated, dated site in Canada with a clear association of a fluted point and faunal remains (Fladmark 1996; Fladmark et al. 1984; Driver et al. 1996). The complete basally-thinned—or fluted—projectile point (Figure 3) was recovered from Com-

Table 1. Radiocarbon dates for excavated sites in northeastern British Columbia (from Canadian Archaeological Radiocarbon Database).

Site Name Borden Number	Lab Number	Normalized Age	Sample Material
Gwillim Lake GiRi-1	WAT-341	Modern	Burned bone
	WAT-306	3430±110 BP	Charcoal
Farrell Creek HaRk-1	WSU-1950	1530±70 BP	Charcoal
	WSU-1951	1630±100 BP	Charcoal
	WSU-1952	2485±130 BP	Charcoal
	DAL-328	2790±95 BP	Charcoal
	WSU-1953	4365±100 BP	Charcoal
	GSC-2475	5830±80 BP	Charcoal
Charlie Lake Cave HbRf-39	SFU-453	1130±240 BP	Charcoal
	SFU-379	1400±400 BP	Charcoal
	RIDDL-59	1550±100 BP	Charcoal
	SFU-358	2900±400 BP	Charcoal
	SFU-382	4270±160 BP	Bison bone collagen
	SFU-385	4400±400 BP	Charcoal
	CAMS-3174	4400±80 BP	Ungulate bone collagen
	SFU-451	4800±640 BP	Charcoal
	SFU-356	6700±290 BP	Charcoal
	SFU-452	7100±350 BP	Charcoal
	RIDDL-10	7400±300 BP	Charcoal
	SFU-370	7800±800 BP	Charcoal
	SFU-357	8400±240 BP	Charcoal
	CAMS-2138	9490±140 BP	Raven bone collagen
	CAMS-2136	9670±150 BP	Bison bone collagen
	SFU-355	9760±160 BP	Bison bone collagen
	RIDDL-393	9990±150 BP	Bison bone collagen
	RIDDL-392	10,100±210 BP	Rodent bone collagen
	CAMS-2137	10,290±100 BP	Raven bone collagen
	SFU-378	10,380±160 BP	Bison bone collagen
	CAMS-2139	10,500±80 BP	Ungulate bone collagen
	SFU-300	10,450±150 BP	Bison bone collagen
	CAMS-2134	10,560±80 BP	Bison bone collagen
	SFU-454	10,770±120 BP	Bison bone collagen
	CAMS-2138	9490±140 BP	Raven bone collagen
	CAMS-2136	9670±150 BP	Bison bone collagen
	SFU-355	9760±160 BP	Bison bone collagen
	RIDDL-393	9990±150 BP	Bison bone collagen
	RIDDL-392	10,100±210 BP	Rodent bone collagen
	CAMS-2137	10,290±100 BP	Raven bone collagen
	SFU-378	10,380±160 BP	Bison bone collagen
	CAMS-2139	10,500±80 BP	Ungulate bone collagen
SFU-300	10,450±150 BP	Bison bone collagen	
CAMS-2134	10,560±80 BP	Bison bone collagen	
SFU-454	10,770±120 BP	Bison bone collagen	

DATE B.P.	PERIODS	PLAINS	INTERIOR PLATEAU	SOUTHWESTERN YUKON	SOUTHWESTERN NWT	
					Phase	Complex
0	LATE PREHISTORIC	Late side-notched	Kamloops Horizon	Bennett Lake Phase	River of the Mountains	Fort Liard
500		Besant		Avonlea		Aishihik Phase
1000			Plateau Horizon			Taye Lake Phase
1500		Sandy Creek		Pelican Lake		
2000			Shuswap Horizon		Grand River (Late Northwest Microblade Tradition)	Albert Thomas Lakeshore
2500		Oxbow		Hanna Duncan McKean		Julian
3000			Lochnore Phase		Annie Lake Complex	Transitional
3500		Lehman Phase		Little Arm Phase		Pointed Mountain
4000			Mummy Cave		Early Nesikep	Klondike
4500		Foothill/Mountain		Old Cordilleran		
5000	Scottsbluff/Alberta/Cody		Paleo-Arctic		Nakah (Northern Plano Tradition)	
5500		Agate Basin/Hell Gap		McLoed Mountain		
6000	Folsom Goshen Clovis					
6500						
7000						
7500						
8000						
8500						
9000						
9500						
10000						
10500						
11000						
11500						
12000						

Figure 2. Cultural sequences for regions adjacent to northeastern British Columbia.



Figure 3. The Charlie Lake fluted point (center) and points from the Pink Mountain site (left and upper).

ponent 1 (Subzone IIb) of the site. It is described as “a stubby, lanceolate, extensively resharpened point of black chert measuring 39.3 mm in length” (Fladmark 1996:14). Hafting modification was observed, and as its overall shape was slightly asymmetrical, Fladmark et al. (1988) suggested that the point might have been reworked to function as a knife during its termination phase of use.

The Middle Prehistoric Period

Driver et al. (1996) establish the Middle Prehistoric Period at Charlie Lake Cave from 7000 BP to approximately 4300 BP, again delimited by radiocarbon dates and associated artifacts. The earliest Middle Prehistoric component (Component 4 – Subzone IIIf) dates to approximately 7000 BP (Driver et al. 1996). Handly (1993) attributed a

Table 2. Prehistoric cultural sequence for the Northern Plains (adapted from Vickers 1986).

Period	Time Span	Diagnostic Projectile Points
Prairie/Plains	500/300 BP–Contact	Small side-notched points with straight bases
Avonlea	1500–500/300 BP	Small side-notched points with concave bases
Besant	2000–1150 BP	Medium side-notched points
Pelican Lake	2600–1500 BP	Large corner-notched points
Hanna/Duncan/McKean	4000–2600 BP	Concave-based points Stemmed points with concave bases Corner-removed points
Oxbow	4500–2500 BP	Corner-notched points with concave bases
Mummy Cave	7500–4500 BP	Large side-notched points
Foothill/Mountain Complex	8000–7000 BP	Stemmed lanceolate points Shouldered lanceolate points
Scottsbluff-Alberta-Cody Complex	9000–8000 BP	Lanceolate points with straight-sided stems Lanceolate points with slightly-shouldered stems
Agate Basin–Hell Gap Complex	10,000–9000 BP	Tapering lanceolate points Lanceolate points with straight or convex bases
Foothill/Mountain Complex	8000–7000 BP	Stemmed lanceolate points Shouldered lanceolate points
Scottsbluff-Alberta-Cody Complex	9000–8000 BP	Lanceolate points with straight-sided stems Lanceolate points with slightly-shouldered stems
Agate Basin–Hell Gap Complex	10,000–9000 BP	Tapering lanceolate points Lanceolate points with straight or convex bases
Folsom Complex	11,500–10,000 BP	Small lanceolate points with very pronounced fluting
Goshen Complex		Large to medium lanceolate points with basal-thinning flakes
Clovis Complex		Large lanceolate points with small, distinct fluting

complete, notched point to the Taye Lake Phase of the southwestern Yukon (cf. Workman 1978). Component 5, with no associated radiocarbon dates, is inferred to date between 7000 and 5000 BP (Driver et al. 1996). One recovered projectile point is a side-notched type with shallow side notches and basal thinning. This projectile point is compared to a similar point recovered from the Farrell Creek Site (HaRk-1) (Driver et al. 1996:273). Component 6 (Subzone IIIh) at Charlie Lake Cave is dated to 4500 BP, and yielded a well-made side-notched projectile point—similar to specimens collected from HbRh-17 (Spurling 1980), and from the Karpinsky Site in northern Alberta (Bryan and Conaty 1975). The points are broadly leaf-shaped, with a shallow side-notches and a convex base.

Component 7 (Subzone IVa) yielded three side-notched, concave-based points, and a fragment of a small corner-notched point. This component dates to approximately 4300 BP (Driver et al. 1996:273). The larger points are similar to Oxbow types found

on the northern plains and the parkland region. Spurling and Ball (1981) have hypothesized that Oxbow points found in the Peace River district date from 3000 to 2500 BP, while Driver et al. (1996) suggest that the Charlie Lake dates appear to refute this hypothesis. The latter authorities go on to point out that Oxbow-like points are found in the Shuswap Horizon, dating from 4000 to 3000 BP in south-central British Columbia (Richards and Rousseau 1987). Donahue (1977) has identified similar projectile points at Tezli at 1900 BP, and they also appear in Taye Lake Phase and Aishihik Phase components (MacNeish 1960; Workman 1978).

The Late Prehistoric Period

Components 8 to 10 at Charlie Lake Cave are in this period (Driver et al. 1996). Component 8 (Subzone IVb) dates to approximately 1500 BP. Two small projectile points with shallow side notches and

Table 3. Cultural sequences for the southwestern Yukon and southwestern Northwest Territory

Cultural sequence for southwestern Yukon Territory (adapted from Workman 1978; Hare 1995).			
Period	Time Span¹		Diagnostic Projectile Points
Bennett Lake Phase	AD 1800–1900		Small side-notched points Unstemmed points
Aishihik Phase	AD 400–1800		Small side-notched points Kavik-style small stemmed points Notched points (rare) Unstemmed points
Taye Lake Phase	3000/2500 BC–AD 400		Lanceolate points with straight or concave bases Convex-based stemmed points (rare) Notched points
Annie Lake Complex	5100–4800 BP		Deeply concave-based points
Little Arm Phase	8500/7500–3000/2500 BP		Leaf-shaped, concave-based points No notched points
Champagne Phase ²	8500–7700 BP		Convex-based lanceolate points
Kluane Phase ²	10,000–8500 BP		Agate Basin-like straight-based lanceolate points
Cultural sequence for southwestern Northwest Territory (adapted from Stevenson 1981; Millar 1981; Morrison 1984, 1987).			
Period	Complex	Time Span¹	Diagnostic Projectile Points
River of the Mountains Phase	Nande Creek	AD 1000–1800	Small side-notched points
	Petitot River	AD 500–1000	Leaf-shaped points with straight bases
	McKenzie	AD 0–500	Single-shouldered points Short straight-stemmed points
		1000–200 BC	
Grand River Phase	Julian	1800–1000 BC	Wide/shallow side-notched points with straight or concave bases Corner-removed points Shouldered, tapering lanceolate points Round to convex-based lanceolate points
	Transitional	2200–1800 BC	
	Pointed Mountain	4000–1900 BC	
Nakah	Klondike	5000–4000 BC	Large leaf-shaped points
		6000–5000 BC	Leaf-shaped points with tapered, straight bases
	Codille	7000–6000 BC	Shouldered lanceolate points
	Kooteneelee		
		10,000–7000 BC	
	McLeod Mountain	>10,000 BC	No points identified

¹ Calendric dates from Workman (1978); RCYBP dates from Hare (1995).

² Hare (1995) combines these phases into his Northern Cordilleran Tradition.

convex bases were recovered from this component, both appearing to have been reworked. Similar specimens have been identified at the Karpinsky Site on the Peace River near Grand Prairie, and are dated to 1100 BP (Bryan and Conaty 1975). Components 9 and 10 at Charlie Lake Cave postdate 1500 BP and have yielded large projectile points with shallow side notches and flat bases. Spurling (1980) reports a similar point from Component 2 at Farrell Creek. Driver et al. (1996) indicate that these points are similar to Taltheilei complex projectile

points dating from 1900 to 300 BP (e.g., Noble 1971; Gordon 1996). Three additional projectile points were recovered from Components 9 and 10; two are small side-notched points and one is a small corner-notched point.

Farrell Creek Site (HaRk-1)

Another reasonably well-documented site in north-eastern British Columbia with deep, stratified cultural deposits is the Farrell Creek Site (HaRk-1),

with a sequence dating to the Middle Prehistoric and Late Prehistoric periods. Originally identified by Richard Daugherty in 1952, the Farrell Creek Site is located at the confluence of Farrell Creek and the Peace River, approximately 57 km west-southwest of Fort St. John. In 1977 and 1978, Brian Spurling (1978, 1980) undertook excavations as part of the Simon Fraser University's heritage studies for the Site C Hydroelectric Project. HaRk-1 is distinguished by deeply stratified cultural deposits with at least four chronologically distinct occupations (Spurling 1980) and three types of projectile points. No diagnostic projectile points were recovered from Component 5 at the site.

Components 3 and 4 are considered to represent Middle Prehistoric Period occupations. One projectile point with a broken base was the only diagnostic artifact from Component 4, the earliest dated Farrell Creek component at 4365 ± 100 BP (WSU 1953) (Spurling 1980:211). Spurling assigned this point to Component 4, due to its lack of stylistic resemblance to the projectile points of Component 3. The Component 4 projectile point is said to resemble a Salmon River Side-notched point of the Mummy Cave Complex (Reeves 1983; Vickers 1986). The radiocarbon date obtained from Component 4 makes the provisional identification of the artifact as a Salmon River side-notched point at least temporally plausible (Spurling 1978:268). Component 3 is the third occupation at Farrell Creek, yielding two Oxbow-like projectile points (5000 to 2500 BP) (Spurling and Ball 1981) (Figure 4). A radiocarbon estimate of 2485 ± 130 (WSU 1952) was obtained from the Oxbow component at the Farrell Creek Site (Spurling 1978:267; Spurling and Ball 1981:89). The age estimate is slightly younger than typical dates for the Oxbow complex, but Spurling and Ball (1981:89; cf. Vickers 1986:68) hypothesize that this may reflect a later adoption of the Oxbow technology by northern residents. As noted previously, the occurrence of Oxbow-like projectile points from Charlie Lake Cave suggest this may not be correct.

Component 2 of the Farrell Creek Site yielded one complete and one relatively complete, side-notched projectile point with slightly concave bases, similar to the Besant style of the Plains, two basal point fragments, and another Besant-like point recovered from the foreshore-face of the site. Spurling reports that three of the Component 2 projectile

points bear formal similarities to the Besant Phase, dating from 2000 to 1150 BP (Reeves 1983; Vickers 1986). Radiocarbon dates of 1530 ± 70 (WSU 1950) and 1630 ± 100 (WSU 1951) were obtained from Component 2, which substantiate the Besant attribution. On the Northern Plains the Besant Phase is recognised as the final period of the Late Middle Prehistoric period (Reeves 1983, Vickers 1986). However, coeval projectile points with shallow side-notches and flat bases from Components 9 and 10 at Charlie Lake Cave are claimed to be Taltheilei points (Driver et al. 1996), and do not appear to resemble typical variants of Besant points.

Component 1 from the Farrell Creek Site (Spurling 1980) is based upon the presence of a fragmentary, small side-notched projectile point; suggesting that Component 1 dated between 500 and 1000 BP (Spurling 1980). A radiocarbon date of 2790 ± 95 (DAL 328) was obtained, but dismissed as being too early.

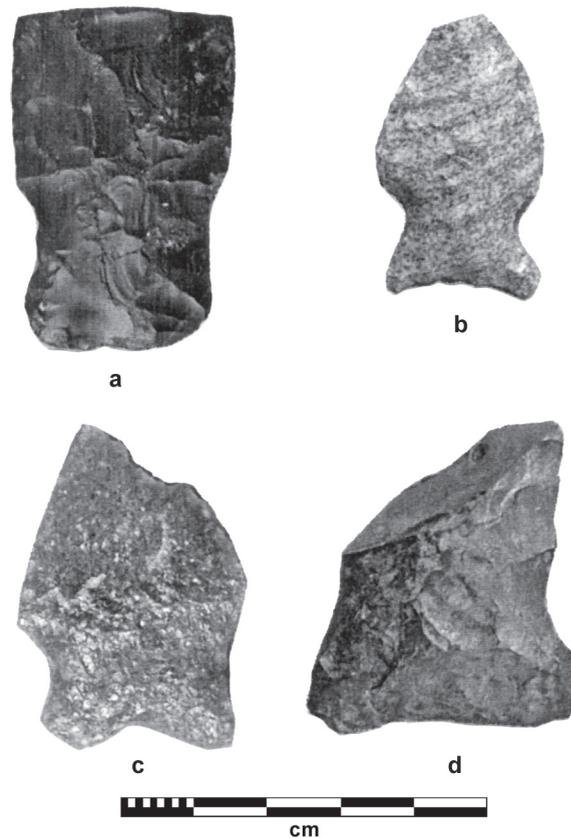


Figure 4. Selected projectile points recovered from HkRe-1 by the Gutah Research Project (courtesy Keary Walde, Heritage North Consulting Ltd.)

Pink Mountain Site (HhRr-1)

The Pink Mountain Site was identified during an archaeological assessment of a proposed pipeline, northwest of the community of Pink Mountain, along the Alaska Highway (Wilson 1986a). Minor test excavations and monitoring of construction (Wilson 1986b) identified several stone tools attributable to Paleoindian complexes. Located on a relatively narrow, high ridge, the Pink Mountain Site was distributed over an area more than 1000 m in length and 150 m in width, and consisted of two and possibly three artifact concentrations (Wilson 1996:29). The artifact assemblage comprises a total of 150 items, including debitage and a microblade core, though several Paleoindian projectile points were identified (Wilson 1990). Wilson (1996) describes two basally-thinned and/or fluted “Clovis” points from undated contexts at the Pink Mountain Site. The two points (Figure 3) are represented by distinctive basal portions only, and Wilson points out that they resemble the early point from Charlie Lake Cave. Wilson goes on to say that such points may form a regional variant of the classic Clovis style, associated with the Northern Rocky Mountains (Wilson 1996:32). An undated Scottsbluff-like point (Figure 3) was also found at the site. Although this was the first Scottsbluff point recovered from an archaeological site in the region, others had been observed in private collections (e.g., Fladmark 1981).

Callison Site (IeSh-1)

Along the Alaska Highway near the northern border of British Columbia, another site has provided important insights into projectile point chronology for this region. The Callison Site (IeSh-1) is located near the settlement of Toad River, 145 km west of Fort Nelson, and was excavated in the summer of 1957 by Richard S. MacNeish (1960). Based upon the sediment matrix profile, MacNeish assigned the artifact-bearing components from 7000 to 2000 BP, but his artifact analysis places the site between 4000 and 2500 BP. One small, lanceolate projectile point, one side-notched convex-base, and one side-notched concave-base point were recovered, along with eight unclassifiable fragments. Comparing the Callison Site with 54 sites in the southern Yukon and southwestern Northwest Territory, MacNeish (1960:47) assigned the Callison projectile points to his Taye Lake Phase.

Gwillim Lake Site (GiRi-4)

The Gwillim Lake Site (GiRi-4) is another site dating to the Middle Prehistoric Period. The site was excavated by Bruce Ball (1978) during one of the archaeological assessments carried out for the Northeast Coal Development. The site is located between Tumbler Ridge and Chetwynd, on the tip of a small terrace overlooking Gwillim Lake. GiRi-4 is a single component, shallow-deposit site, interpreted by Ball (1978) as a camp for the production of stone tools and preparation of meat and hides. Few diagnostic artifacts were recovered from the Gwillim Lake Site, but two projectile point fragments were attributed to the Oxbox complex (Ball 1978:97). One radiocarbon date of 3427 ± 110 BP (WAT-306) was obtained from the cultural component. Based on this date and the projectile point fragments, Spurling and Ball (1981) assigned the site to the Oxbox complex.

Gutah Project (HkRe-1)

Most recently, the ongoing Gutah Research Project under the direction of Keary Walde and Tara Mather (Heritage North Consulting) has been investigating Holocene environments and human history from 12,000–10,000 years ago to the present. The Gutah Project is located approximately 164 km north of Fort St. John, with a primary focus on HkRe-1, a site identified during a post-development inspection of an oil/gas wellsite (Heritage North Consulting 2004). Excavations at HkRe-1 to date have yielded several projectile points (Figure 4), including a lanceolate point fragment with shallow side notches and slightly convex base, a small side-notched point with a concave base, a fragmentary corner-notched point with a concave base, and the base of two side-notched points. At the time this paper was presented, there were no radiocarbon dates available for these artifacts, but these points resemble Late Prehistoric styles from Fisherman Lake and/or the Taltheilei complex.

Surface Finds from Peace River District

During several years of archaeological research along the Peace River by Simon Fraser University, Knut Fladmark (1981) observed a number of diagnostic projectile points in private collections made around

Fort St. John. Charlie Lake Cave-style basally-thinned and/or fluted points have been collected from surface contexts in the Peace District, and Fladmark (1981) reports examples from the Gerret Site and the Bedier Site near Fort St. John. Fladmark describes three additional projectile points from private collections as “Plainview-like”, that is, basally-thinned, concave-based points without distinctive evidence of fluting. Additional projectile points resembling typical Paleoindian styles (e.g., Scottsbluff, Alberta, Eden, and Lerma) have also been reported from Northeast B.C. Fladmark (1981) reported a complete Alberta-style point, recovered by a landowner from a surface exposure 7 km northeast of Fort St. John. Another artifact is the medial section of a Scottsbluff-style point, recovered 6 m below the surface during construction of a bridge over Stoddard Creek. Fladmark (1981) reports that the lithic material from which the latter point was manufactured resembles Knife River Flint, which has a wide distribution throughout the Northern Plains (Wormington and Forbis 1965, Irwin and Wormington 1970). Lastly, small side-notched or corner-notched projectile points are regularly encountered during cultural resource management programs undertaken for proposed oil and gas developments throughout the Peace River District (e.g., Arcas Consulting Archeologists 2002, 2005; Wilson 1986a, 1986b). These points are ubiquitous throughout British Columbia and the Northern Plains in the later period.

Surface Finds from the Rocky Mountain Trench

Between 1996 and 2003, archaeological site surveys in the Rocky Mountain Trench resulted in the discovery of numerous projectile points and other artifacts in the drawdown zone of Finlay Reach, the northern arm of Williston Lake Reservoir impounded by the W.A.C. Bennett Dam. These studies were undertaken at the request of BC Hydro in response to Tsay Keh Dene First Nation concerns about archaeological sites being disturbed by ongoing reservoir operations (Western Heritage Services 1996; Arcas Consulting Archeologists 2004), or as part of a multi-year project to develop a predictive archaeological resource potential model for the Mackenzie Forest District (Western Heritage Services 1998, 2000). All of the investigations focused exclusively on the upper part of the drawdown

zone, between 659 and 670 meters above sea level (the minimum pool elevation is 642 m). Thus, while the field surveys examined only the highest part of the pool, they were also concentrating on the oldest landforms in this environment.

The first post-inundation surveys of the Finlay Reach drawdown zone were undertaken by Charles Ramsay and Terry Gibson (Western Heritage Services 1996, 1997, 1998, 2000), and indicated the presence of distinctive Early Prehistoric artifacts. From 1996 to 2000, Western Heritage Services’ archaeologists identified a total of 27 sites, all on the eastern side of the reservoir and most of them between Davis River and Shovel Creek (Western Heritage Services 1996, 2000). More recently, Arcas Consulting Archaeologists carried out the first stage of a research project for the Tsay Keh Dene First Nation and BC Hydro, to address several issues concerning archaeological site integrity in the Finlay Reach. During a reconnaissance survey of the drawdown zone in 2003, a total of 66 artifact locations were identified in eight of 10 survey localities (Figure 5) including diagnostic Early, Middle, and Late Prehistoric period projectile points. Point styles attributable to the Paleoindian sequences of the Northern Plains (Figure 6) were found, but others are more typical of Middle and Late Prehistoric styles from the Western Subarctic (Figure 7). At the Bruin Creek locality, a projectile point similar to the Charlie Lake fluted point was found amongst a small lithic surface scatter (Arcas Consulting Archeologists 2004). This specimen (BRUAR3) is a Goshen/Charlie Lake style projectile point (Figure 6a). The point is complete, 53 mm long x 25 mm wide x 6 mm thick, and is made from black chert with a basally-thinned, concave base.

Four potential Agate Basin-style projectile points were identified during the 2003 survey in Finlay Reach (Arcas Consulting Archeologists 2004). The medial section of a large, lanceolate point (Artifact-1) and a complete Agate Basin point with well-defined edge-grinding and a straight base (OSPAR4; Figure 6c) were found in the Ospika Arm locality. Another complete Agate Basin point (or perhaps Hell Gap) (SOMAR1; Figure 6d) was discovered at Van Somer Point in the northern part of Finlay Reach. The fourth specimen (ARBR36; Figure 6b) was identified amongst a high-density artifact scatter at the Bruin Creek locality. This point appears to have been broken during manufacture,

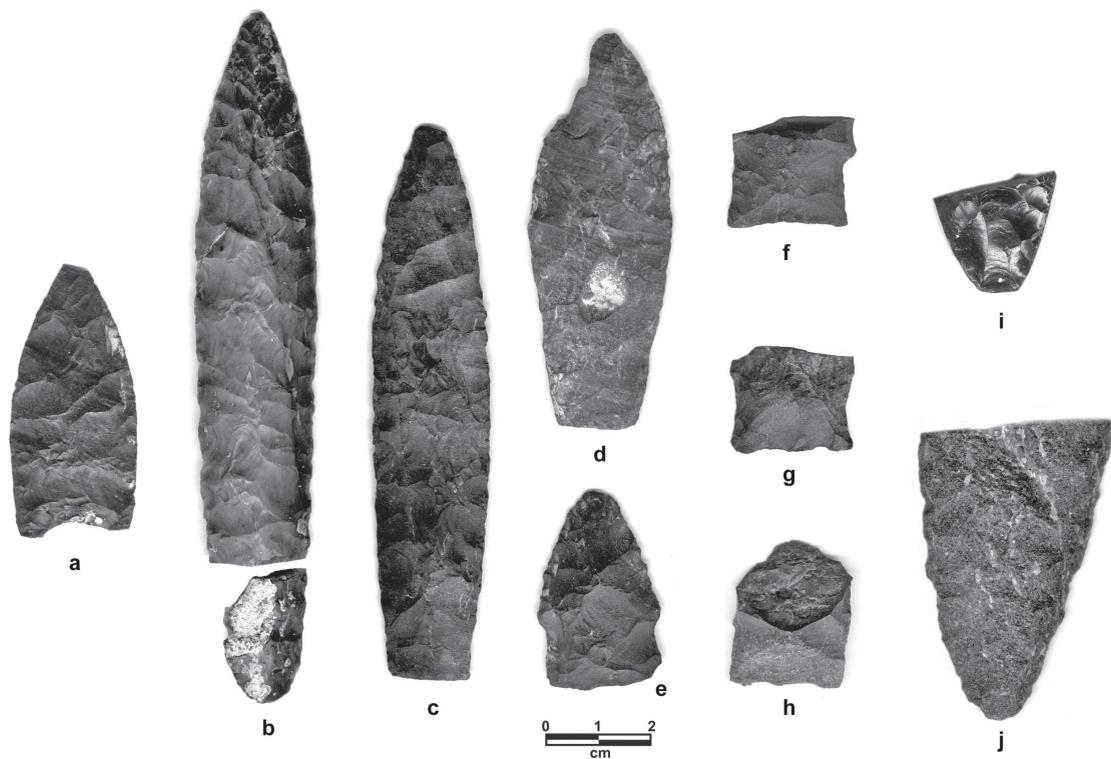


Figure 6. PaleoIndian and/or Northern Cordilleran Points from the Finlay Reach of Williston Reservoir. a: BRUAR3 (Bruin Creek locality); b: ARBR36 (Bruin Creek); c: OSPAR4 (Ospika Arm); d: SOMAR1 (Van Somer Point); e: COLA-1 (Collins Bay); f: LAFF-E (Lafferty South); g: ARLN04 (Lafferty North); h: DAA30 (Shovel Creek); i: MICA14 (Mica Peak); j: MICAR4 (Mica Peak).

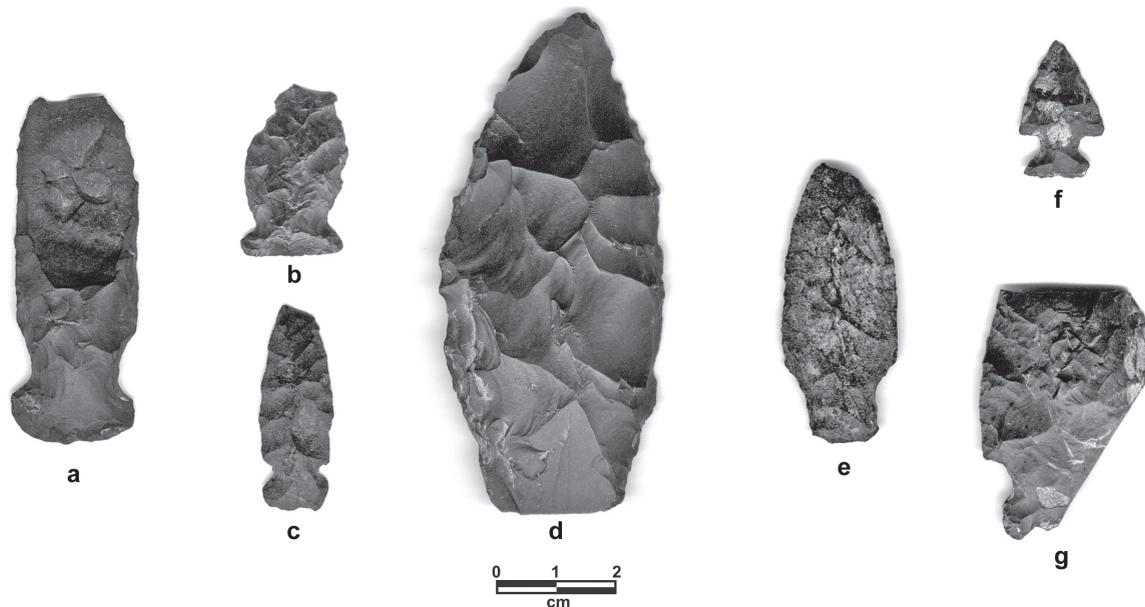


Figure 7. Stemmed and Notched projectile points from the Finlay Reach of Williston Reservoir. a: ARBRU30; b: ARBRU39; c: ARBRU28; d: ARBRU3; e: ARBRU2; f: DAA26; g: ARBRU40. All are from the Bruin Creek locality except for DAA26, from the Shovel Creek locality.

but the fragments were refitted and establish that it had a convex base. At least two additional Agate Basin-style projectile points were observed in private collections owned by members of the Tsay Keh Dene community. Agate Basin points are known to have been “mimicked” by Middle Prehistoric Period makers of lanceolate projectile points (cf. Clark 1983; Wright 1995). Further, Hare (1995) regards lanceolate, convex- or straight-based points to also be characteristic of the Northern Cordilleran Tradition.

Scottsbluff-like projectile point bases (LAFF-E, ARLN04, DAA30; Figure 6f, 6g, 6h) were found at the Lafferty South, Lafferty North, and Shovel Creek localities, and a stemmed projectile point (COLA-1; Figure 6e) from Collins Bay may be a resharpened/reworked Scottsbluff point (Arcas Consulting Archeologists 2004). A unique artifact (LAFF-E) from the Lafferty South locality was identified as a fragmentary Cody Knife (Michael Wilson, pers. comm. March 2005), though this has been disputed (Knut Fladmark and B.O.K. Reeves, pers. comms. May 2005). LAFF-E is 21 mm long x 26 mm wide x 6 mm thick, and has a concave, stemmed base with one pronounced shoulder. No Alberta or Foothills-Mountain-style points were discovered during the surveys by Western Heritage Services or Arcas Consulting Archeologists, but characteristic specimens are present in private collections from Finlay Reach at Tsay Keh Village (Arcas Consulting Archeologists 2004).

Leaf-shaped projectile points were encountered at three localities during the 2003 survey. MICAR14 and MICAR4 (Figure 6i, 6j) are foliate point bases, the latter manufactured from obsidian with an intensively-ground margin. Both were found at the Mica Peak locality on the western side of Finlay Reach, where two unclassifiable point tips were also observed. At the Bruin Creek locality on the eastern side of the reservoir, ARBRU6 (not collected) is the medial portion of a leaf-shaped point just missing its tip and base. Leaf-shaped points are not characteristic of typical PaleoIndian styles, but are frequently associated with Early Prehistoric Period (and later) assemblages from the Interior Plateau of the Pacific Northwest (e.g., Stryd and Rousseau 1996) and the Western Subarctic (e.g., Clark 1981). Large foliate bifaces observed at the Lafferty South and Bruin Creek localities, and seen in private collections, are more likely to be knives than points.

Although Alberta points and some late PaleoIndian styles (e.g., Foothills-Mountain Complex) exhibit pronounced stems (Arcas Consulting Archeologists 2004:Figure 3–8), this attribute also distinguishes Middle Prehistoric Period projectile points, along with side- or corner-notching. The only stemmed points identified in Finlay Reach during the 2003 survey are ARBRU31 and ARBRU2 (Figure 6d, 6e) from the Bruin Creek locality. The former is a large, fairly thick artifact with a distinctive, wedge-shaped tapering stem that may be of Northern Cordilleran affinities. ARBRU2 is a somewhat nondescript point with a well-defined, straight-sided stem which could be attributable to some local equivalent of the Mackenzie Complex at Fisherman Lake (Millar 1981).

Notched points were most common at the Bruin Creek locality in Finlay Reach, where two side-notched, lanceolate points (ARBRU30, ARBRU28; Figure 7a, 7c), a broad side-notched point with a straight base (ARBRU39; Figure 7b), a fragmentary corner-notched point with a concave base (ARBRU40; Figure 7g), and a fragment of a small lanceolate point with a deeply-concave base (ARBR50/1; not collected) were observed amongst high-density artifact scatters associated with calcined bone fragments and patches of fire-reddened soil (Arcas Consulting Archeologists 2004). Of these, ARBRU28 is quite small and may be of Late Prehistoric attribution, though resembling no reported style known to us. ARBRU30 is the most interesting of this assemblage, exhibiting broad, shallow flaking, wide side-notches, and a pronounced lobate stem, closely resembling the Northern Archaic styles described by Gotthardt (1990:Plate 6.3), and sometimes referred to as “Kamut Points”. ARBRU39 and ARBRU40 appear to represent typical examples of Pointed Mountain and/or Julian Complex points (Morrison 1987; Millar 1981). Lastly, ARBR50/1 is half of a longitudinally-fractured small point with a deeply-concave base, and may be equivalent to the Annie Lake Complex of the southern Yukon (Hare 1995).

One characteristic Late Prehistoric Period projectile point was observed during the 2003 survey in Finlay Reach. DAA26 (Figure 7f) was recovered from the Shovel Creek locality on the eastern side of the reservoir (Arcas Consulting Archeologists 2004). This artifact has a distinctly concave base, and the side-notches are quite pronounced with prominent

tangs. No contemporary points from the Northern Plains (e.g., Pelican Lake) or the Interior Plateau (e.g., Kamloops) culture areas resemble this type, but the Julian Complex of Fisherman Lake (Morrison 1987) and the Aishihik and Bennett Lake Phases of southwestern Yukon (Workman 1978) have better matches.

A Proposed Projectile Point Sequence for Northeastern British Columbia

Figure 8 is a synoptic chart illustrating the proposed sequence of projectile points in the Peace River District and Rocky Mountain Trench. The paleoenvironmental data from northeastern British Columbia indicates that a habitable environment had developed in this region by 11,600 BP (White 1983; Churcher and Wilson 1979). Human occupation probably followed herds of game animals (e.g., extinct species of bison) that entered the region from the Plains in search of new forage. These people represented the Paleoindian tradition, found throughout North America and marked by a number of distinctive traits, most notably a well-defined sequence of projectile point types (Table 2). Archaeologists have tended to stereotype Paleoindian people as exclusive hunters of big game, including giant species of bison, native horses, mammoths, and mastodons, all of which were contemporaries (e.g., Frison 1991). However, the classic Pleistocene mega-fauna were nearly all extinct by about 10,000 BP (Vickers 1986), so later Paleoindian hunters had to make do with smaller ungulate prey (e.g., bison, caribou, bighorn sheep) for at least several thousand years (Frison 1991).

Paleoindian points appear to be present throughout the Peace River drainage and Rocky Mountain Trench components of our study area. The Paleoindian points identified so far stylistically resemble those from the Great Plains and include points resembling Goshen, Agate Basin, Scottsbluff, and Alberta. These points suggest origins far to the south, presumably carried by early peoples following the retreating ice sheets into the Peace River drainage Charlie Lake/Goshen/Basally-Thinned triangular projectile points (11,000–10,000 BP) are felt to be late expressions of the Fluted Point Tradition (Carlson 1983). These are names used by different authorities (Gryba 2001; Frison 1991; Vickers 1986) to describe the same style of Paleoindian

projectile point. This point type is intermediate in age between Clovis and Folsom, and appears to survive more recently in time than either of those point types (Frison 1991; 1996). The general shape of these points is reminiscent of a small Clovis point without a well-defined flute scar—instead, one or more small, basal-thinning scars are present on one or both faces of the artifact (Frison 1991, 1996). Most of these points that have been found in Canada are distinctly smaller than classic Clovis points. This point style is more abundant in western Canada than either Clovis or Folsom, with numerous specimens reported from Saskatchewan and Alberta, as well as the Peace River District of B.C. (Gryba 2001; Wilson 1989). Unlike either Folsom or Clovis point styles, Charlie Lake/Goshen points are clearly associated with late Pleistocene-early Holocene occupation of montane environments, including the “high plains” of western Wyoming (Frison 1991, 1996), the Rocky Mountain foothills (Gryba 1983) and the upper Bow River valley in Alberta (Fedje, et al. 1995; Fedje 1996). Furthermore, several points of this style have been found in central and northern Alaska (Clark and Clark 1983).

Northern Cordilleran points appear to be present in the Rocky Mountain Trench, based on the presence of leaf-shaped points at Mica Peak locality and elsewhere, as well as a putative, Denali-style microblade core (COLA-3) from the Collins Bay locality and microblades observed at the Shovel Creek locality and in a private collection from the Ospika Arm (Arcas Consulting Archeologists 2004). However, microblades are also a characteristic feature of the Middle Prehistoric Pointed Mountain Complex at Fisherman Lake and elsewhere (Millar 1981). Lastly, distinctive Northern Cordilleran projectile points so far do not appear to be present in the southern Peace River District.

Middle Prehistoric points in Peace River District appear to represent Plains types (Mummy Cave, Oxbow, Hanna). Middle Prehistoric points in the Rocky Mountain Trench more closely resemble Northern Archaic styles, such as the Kamut like point from Bruin Creek. However, Plains-style Middle Prehistoric points may also be present in the Trench, as a McKean point is reported from Davis River (Western Heritage Services 2000).

Late Prehistoric points in the Peace River District largely appear to parallel the Plains se-

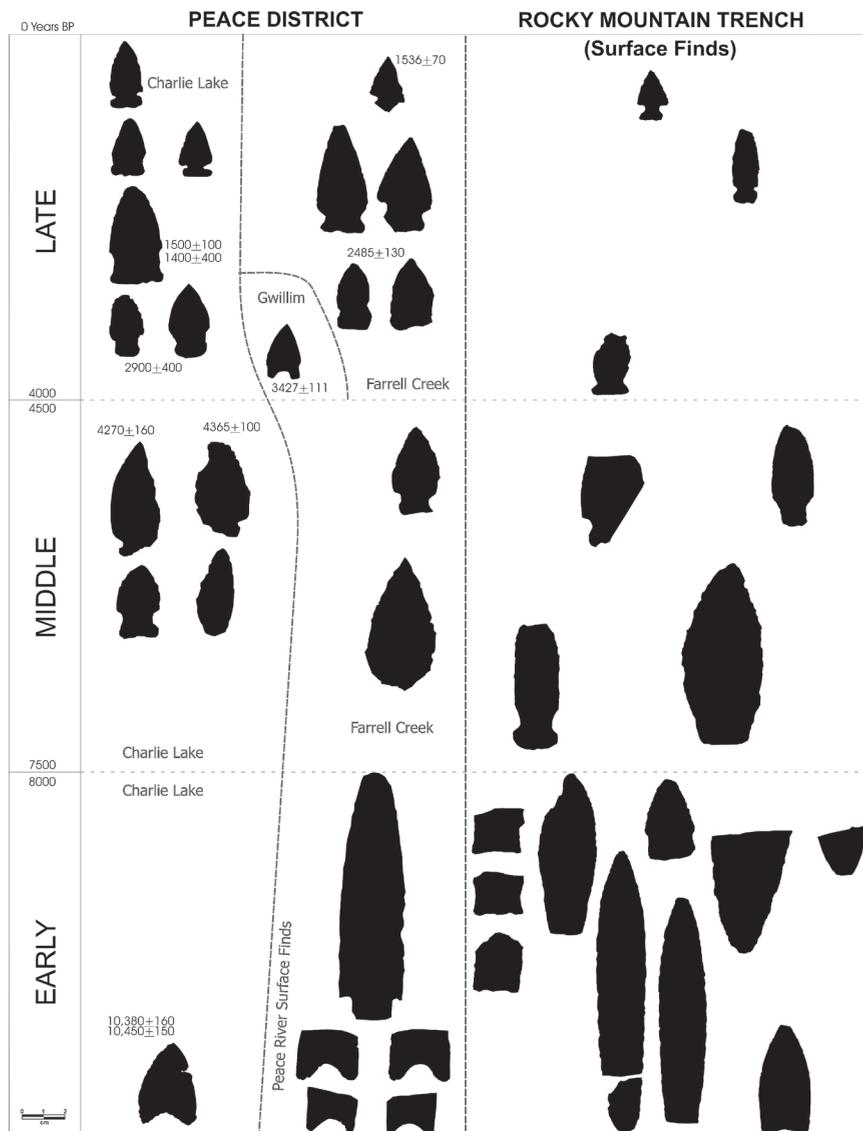


Figure 8. The proposed sequence of point types from surface sites in the Rocky Mountain Trench compared with the proposed Sequence of Points from the Peace River District.

quence, but it is suggested here that there may be a north–south split, with more Plains styles in the southern portion of the region and Fisherman Lake/Aishihik-Kluane or even Taltheilei artifacts in the northern portion of the Peace River District. Thus, the Gutah points illustrated in Figure 3 may have early and middle Taltheilei affinities (Heritage North Consulting 2004), while Charlie Lake Cave has one point also claimed to represent a Taltheilei style (Driver et al. 1996). Late Period points in the Rocky Mountain Trench do not appear to resemble either Plains or Plateau styles, but the sample is miniscule—one small side-notched point recovered from a surface context at Shovel Creek and another seen in a private collection at Tsey Key Village. These points more closely resemble specimens from

the southern Yukon than neighbouring regions to the east and southwest.

The Rocky Mountain Trench affords direct, easily-traversed access to and from the southern Yukon. Furthermore, the Peace River is the only water-level route through the Northern Rocky Mountains. Paleoenvironments in the Trench appear to have been similar to Peace River parklands during the early Holocene. With the river providing direct access from the Northern Plains to the Rocky Mountain Trench for the earliest inhabitants of the region, it is reasonable to assume that typical PaleoIndian cultures would prevail in this part of the region as the ice retreated. In the later PaleoIndian period, different groups of early peoples (“Northern Cordilleran”) may have migrated down the Rocky

Mountain Trench from the southern Yukon. By the Middle Prehistoric Period, distinctive northern and eastern influences appear within the Peace River drainage, and there may also have been influences from the north-central interior of B.C. As forests expanded in the Peace River District and Rocky Mountain Trench in the later Holocene, populations of grassland-dwelling animals diminished or scattered, forcing human populations from these lands to follow subsidiary drainages and expand more deeply into less-productive muskeg environments. The significance of the Rocky Mountain Trench in the prehistory of northeastern British Columbia is evidenced by the abundance of obsidian in Finlay Reach, where large worked obsidian cores were seen in private collections at Tsay Keh Village and artifacts made of the same material were observed at various localities (Arcas Consulting Archaeologists 2004). X-ray fluorescence analysis of two obsidian artifacts from the Mica Peak locality were determined to originate from the Mt. Edziza source in northwestern British Columbia (James 2003). These findings emphasize the importance of the Rocky Mountain Trench as a route for long-distance trading networks in the past. It is to be hoped that the current pattern of development-driven cultural resource management studies may yet result in the discovery of additional sites providing stratified cultural deposits, radiocarbon dates, and of course, diagnostic projectile points.

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The professional opinions expressed in this report are those of the authors, and not necessarily those of any individuals, groups, or institutions involved in the study. We are solely responsible for the content of this report, including any errors, omissions, or shortcomings.

Dedication. To the Pathfinders of NE British Columbia Archaeology: Charles Borden, Knut Fladmark, Robert McGhee, Richard S. MacNeish, Donald H. Mitchell, and Richard Daugherty

References Cited

- Arcas Consulting Archeologists
 2000 Petrochemical Developments in Blueberry River First Nations Asserted Territory: Archaeological Assessments Permit Report. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
 2002 Archaeological Investigations at Sites HcR-036 and HcRg-037, Charlie Lake, B.C. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
 2004 Finlay Reach Archaeological Study: Permit 2003-218 Final Report. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
 2005 Peace River & Fort Nelson – Liard Regional Districts: Archaeological Impact Assessments Permit Report (Heritage Inspection Permit 2003-065). On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- Archaeological Survey of Canada
 2006 *Canadian Archaeological Radiocarbon Database*. Available on the Internet at <http://www.canadianarchaeology.ca/radiocarbon/card/card.htm>.
- Ball, B.
 1978 Heritage Resources of the Northeast Coal Study Area 1977-1978. On file, Archaeological Permitting Section, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- Blackmar, J.M.
 1998 The Distribution of Cody Knives: A Distinctive Trait of the Cody Complex. *Current Research in the Pleistocene* 15:6-9.
- Bryan, A.L., and G. Conaty
 1975 A Prehistoric Campsite in Northwestern Alberta. *Western Canadian Journal of Anthropology* 5:64-91.
- Carlson, R.L.
 1983 Prehistory of the Northwest Coast. In *Indian Art Traditions of the Northwest Coast*, R.L. Carlson (ed.), pp. 13-32. Archaeology Press Publication No. 13, Simon Fraser University, Burnaby.
- Churcher, C.S., and M. Wilson
 1979 Quaternary Mammals from the Eastern Peace River District, Alberta. *Journal of Paleontology* 53:71-76.
- Clark, D.
 1981 Prehistory of the Western Subarctic. In *Handbook of North American Indians: Subarctic. Volume 6*,

- J. Helm (ed.), pp. 107–129. Smithsonian Institute, Washington, D.C.
- 1983 Is there a Northern Cordilleran Tradition? *Canadian Journal of Archaeology* 7(1):23–48.
- 1987 *Archaeological Reconnaissance at Great Bear Lake*. Mercury Series, National Museum of Man, Archaeological Survey of Canada, Paper No. 136, Ottawa.
- 1991 *Western Subarctic Prehistory*. Archaeological Survey of Canada, Canadian Museum of Civilization, Hull.
- 2001 Microblade-culture Systematics in the Far Interior Northwest. *Arctic Anthropology* 38(2):64–80.
- Clark, D.W., and A.F. Clark
- 1983 Paleo-Indians and Fluted Points: Subarctic Alternatives. *Plains Anthropologist* 28(102):283–292.
- Clark, D.W., and R.M. Gotthardt
- 1999 *Microblade Complexes and Traditions in the Interior Northwest, as seen from the Kelly Creek Site, West-Central Yukon*. Hude Hudan Series, Occasional Papers in Archaeology 6, Whitehorse.
- Donahue, P.F.
- 1976 *Research in Northern Alberta, 1975*. Archaeological Survey of Alberta, Occasional Paper No. 2, Alberta Culture-Historical Resources, Edmonton.
- 1977 Prehistoric Relationships between the Plains, Boreal Forest and Cordilleran Regions. In *The Athapaskan Question: Problems in the Prehistory of the North American Sub-Arctic*, J.W. Helmer, S. Van Dyke, and F.J. Kense (eds.), pp. 83–89. Chacmool Archaeological Association, University of Calgary, Calgary.
- Driver, J., M. Handly, K.R. Fladmark, D.E. Nelson, G.M. Sullivan, and R. Preston
- 1996 Stratigraphy, Radiocarbon Dating, and Culture History of Charlie Lake Cave, British Columbia. *Arctic* 49(3):265–277.
- Fedirchuk, G.
- 1971 Recent Archaeological Investigations at Fisherman Lake: The Julian Site. In *Early Man and Environments in Northwestern North America*, R.A. Smith and J.W. Smith (eds.), pp. 105–116. The Students' Press, Department of Archaeology, University of Calgary, Calgary.
- Fedje, D.W.
- 1996 Early Human Presence in Banff National Park. In *Early Human Occupation In British Columbia*, R.L. Carlson and L. Dalla Bona (eds.), pp. 35–44. University of British Columbia Press, Vancouver.
- Fedje, D.W., J.M. White, M.C. Wilson, D.E. Nelson, J.S. Vogel, and J.R. Southon
- 1995 Vermilion Lakes Site: Adaptations and Environments in the Canadian Rockies During the Latest Pleistocene and Early Holocene. *American Antiquity* 60(1):81–108.
- Fladmark, K.R.
- 1975 Peace Past: A Report on the Archaeological Reconnaissance of the Peace River Basin, 1974 Field Season. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- 1981 Paleo-Indian Artifacts from the Peace River District. *BC Studies* 48:124–135.
- 1985 *Glass and Ice: The Archaeology of Mt. Edziza*. Archaeology Press Publication 14, Simon Fraser University, Burnaby.
- 1996 The Prehistory of Charlie Lake Cave. In *Early Human Occupation in British Columbia*, by R.L. Carlson and L. Dalla Bona (eds.), pp. 11–20. University of British Columbia Press, Vancouver.
- Fladmark, K.R., D. Alexander, and J. Driver
- 1984 Excavations at Charlie Lake Cave (HbRf-39), 1983. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- Fladmark, K.R., J. Driver, and D. Alexander
- 1988 The Paleoindian Component at Charlie Lake Cave (HbRf-39), British Columbia. *American Antiquity* 53(2):371–384.
- Fromhold, J.
- 1972 *An Illustrated Guide to Projectile Points for the Alberta Region*. Privately published by the author, Calgary.
- Frison, G. (editor)
- 1991 *Prehistoric Hunters of the High Plains. Second Edition*. Academic Press, San Diego.
- 1996 *The Mill Iron Site*. University of New Mexico Press, Albuquerque.
- Gordon, B.C.
- 1977 Chipewyan Prehistory. In *The Athapaskan Question: Problems in the Prehistory of the North American Sub-Arctic*, J.W. Helmer, S. Van Dyke, and F.J. Kense (eds.), pp. 77–82. Chacmool Archaeological Association, University of Calgary, Calgary.
- 1996 *People of Sunlight, People of Starlight: Barrenland Archaeology in the Northwest Territories of Canada*. Mercury Series, National Museum of Man, Archaeological Survey of Canada Paper No. 154. Ottawa.

- Gotthardt, R.M.
1990 *The Archaeological Sequence in the Northern Cordillera: A Consideration of Typology and Traditions*. Yukon Heritage Branch, Hude Hudan Series, Occasional Papers in Archaeology 1, Whitehorse.
- Greer, S.C.
1993 Annie Lake: A Southern Yukon Mid-Holocene Cultural Complex. *Canadian Journal of Archaeology* 17:26–42.
- Gryba, E.M.
1983 *Sibbald Creek: 11,000 Years of Human Use of the Alberta Foothills*. Archaeological Survey of Alberta, Occasional Paper 22, Edmonton.
- 2001 Evidence of the Fluted Point Tradition in Western Canada. In *On Being First: Cultural Innovation and Environmental Consequences of First Peopling*, J. Gillespie, S. Tupakka and C. De Mille (eds.), pp. 251–284. Chacmool Archaeological Association, University of Calgary, Calgary.
- Handly, M.J.
1993 *Lithic Assemblage Variability at Charlie Lake Cave (HbRf-39): A Stratified Rockshelter in Northeastern British Columbia*. Unpublished M.A. Thesis, Department of Archaeology, Trent University, Peterborough.
- Hare, G.
1995 *Holocene Occupations in the Southern Yukon: New Perspectives from the Annie Lake Site*. Yukon Heritage Branch, Hude Hudan Series, Occasional Papers in Archaeology 5, Whitehorse.
- Heffner, T.A.
2002 *KaVn-2: An Eastern Beringian Tradition Archaeological Site in West-Central Yukon Territory, Canada*. Hude Hudan Series, Occasional Papers in Archaeology 10. Government of the Yukon, Whitehorse.
- Helmer, J.W.
1977 Points, People and Prehistory: A Preliminary Synthesis of Culture History in North Central British Columbia. In *The Athapaskan Question: Problems in the Prehistory of the North American Sub-Arctic*, J.W. Helmer, S. Van Dyke, and F.J. Kense (eds.), pp. 90–96. Chacmool Archaeological Association, University of Calgary, Calgary.
- Heritage North Consulting Limited
2004 The Gutah Research Project. Holocene – Human History/Paleoenvironmental Reconstruction 12,000–10,000 Years Ago to the Present. 2003 Field Season Results: Summary Report. [<http://heritagenorth.com/Gutah/Gutah%20Project%20-%202003%20Summary.pdf>]
- Irwin, H.T., and H.M. Wormington
1970 Paleo-Indian Tool Types of the Great Plains. *American Antiquity* 35(1):24–34.
- James, M.A.
2003 X-ray Fluorescence Analysis of Artifacts MICAR6 and MICAR13. Letter report dated 11 November 2003. On file at Arcas Consulting Archaeologists Ltd., Coquitlam.
- MacNeish, R.S.
1954 The Pointed Mountain Site near Fort Liard, Northwest Territories, Canada. *American Antiquity* 19(3):234–253.
- 1960 The Callison Site in the Light of Archaeological Survey of Southwest Yukon. In *Contributions in Anthropology 1957*, pp. 1–51. National Museum of Canada, Bulletin 162, Ottawa.
- 1964 Investigations in the Southwest Yukon: Archaeological Excavations, Comparisons, and Speculations. *Papers of the Robert S. Peabody Foundation for Archaeology* 6(2):201–488.
- Millar, J.F.V.
1981 Interaction between the Mackenzie and Yukon Basins during the Early Holocene. In *Networks of the Past: Regional Interaction in Archaeology*, P.D. Francis, F.J. Kemp, and P.G. Duke (eds.), pp. 259–294. Chacmool Archaeological Association, University of Calgary, Calgary.
- Morrison, D.A.
1984 A Reassessment of the Julian Complex. *Canadian Journal of Archaeology* 8(1):49–74.
- 1987 The Middle Prehistoric Period and the Archaic Concept in the Mackenzie Valley. *Canadian Journal of Archaeology* 11:49–74.
- Noble, W.C.
1971 Archaeological Surveys and Sequences in Central District of Mackenzie, N.W.T. *Arctic Anthropology* VIII(1):102–135.
- Reeves, B.O.K.
1983 *Culture Change in the Northern Plains: 1000 BC–AD 1000*. Archaeological Survey of Alberta, Occasional Paper No. 20. Edmonton.
- Richards, T., and M. Rousseau
1987 *Late Prehistoric Cultural Horizons on the Canadian Plateau*. Archaeology Press Publication No. 16, Simon Fraser University, Burnaby.
- Spurling, B.
1978 The Site C Heritage Resource Inventory and

- Assessment. On file, B.C. Hydro and Power Authority, Vancouver.
- 1980 The Site C Heritage Resource Inventory and Assessment: Final report – Substantive Contributions. On file, B.C. Hydro and Power Authority, Vancouver and Report on file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- Spurling, B.E., and B.F. Ball
- 1981 On Some Distributions of the Oxbow 'Complex'. *Canadian Journal of Archaeology* 5:89–102.
- Stevenson, M.G.
- 1986 *Window on the Past: Archaeological Assessment of the Peace Point Site, Wood Buffalo National Park, Alberta*. Environment Canada, Parks Canada, National Historic Parks and Sites Branch, Studies in Archaeology, Architecture and History, Ottawa.
- Stryd, A. H., and M.K. Rousseau
- 1996 The Early Prehistory of the Mid Fraser-Thompson River Area. In *Early Human Occupation in British Columbia*, R.L. Carlson and L. Dalla Bona (eds.), pp. 177–204. University of British Columbia Press, Vancouver.
- Vickers, J.R.
- 1986 *Alberta Plains Prehistory: A Review*. Archaeological Survey of Alberta, Occasional Paper No. 27. Edmonton.
- Western Heritage Services
- 1996 A Preliminary Evaluation of Three Archaeological Localities in the Williston Lake Area, North-Central British Columbia. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- 1997 The Mackenzie Timber Supply Area Archaeological Overview Assessment Final Report: Archaeological Field Reconnaissance. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- 1998 Mackenzie TSA Archaeological Inventory Assessment 1998 Report of Activities. Consultant's report prepared for Finlay Forest Industries Inc., Mackenzie, B.C. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- 2000 An Archaeological Inventory of the Mackenzie Forest District, Northeastern British Columbia. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- White, J.
- 1983 *Late Quaternary Geochronology and Palaeoecology of the Upper Peace District, Canada*. Unpublished Ph.D. dissertation, Department of Archaeology, Simon Fraser University, Burnaby.
- Wilson, I.R.
- 1986a Heritage Resource Inventory and Impact Assessment Proposed Sikanni Pipeline, Northeastern B.C. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- 1986b Pink Mountain Site (HhRr 1) Archaeological Assessment and Monitoring of an Early Man Site in Northeastern B.C. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- 1989 The Pink Mountain Site (HhR 1) Archaeological Assessment and Monitoring of an Early Man Site in Northeastern B.C. On file, Archaeology Branch, Ministry of Tourism, Sport and the Arts, Victoria.
- 1990 The Pink Mountain Site (HhRr-1): An Early Prehistoric Campsite in Northeastern B.C. *Canadian Journal of Archaeology* 13:51–67.
- 1996 Paleoindian Sites in the Vicinity of Pink Mountain. In *Early Human Occupation in British Columbia*, R.L. Carlson and L. Dalla Bona (eds.), pp. 29–34. University of British Columbia Press, Vancouver.
- Workman, W.B.
- 1978 *Prehistory of the Aishibik-Kluane Area, Southwest Yukon Territory*. Mercury Series, National Museum of Man, Archaeological Survey of Canada Paper No. 74, Ottawa.
- Wormington, H.M.
- 1964 *Ancient Man in North America*. Denver Museum of Natural History, Popular Series 4, Denver.
- Wormington, H.M., and R.G. Forbis
- 1965 *An Introduction to the Archaeology of Alberta, Canada*. Denver Museum of Natural History Proceedings No. 11. Denver.
- Wright, J.V.
- 1995 *A History of the Native People of Canada: Volume I*. Mercury Series, National Museum of Man, Archaeological Survey of Canada, Paper No. 152. Ottawa.
- 1999 *A History of the Native People of Canada: Volume II*. Mercury Series, National Museum of Man, Archaeological Survey of Canada Paper No. 152. Ottawa.