ARCHAEOLOGICAL OVERVIEW ASSESSMENT – INTERIM REPORT

Archaeological Predictive Model
B.C. Timber Sales
Prince George Forest District

Archaeological Overview Assessment
Interim Report
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Prepared for

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Table of Contents

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

The Ministry of Forests and Range requested that I.R. Wilson Consultants Ltd. develop an archaeological predictive model (APM) for the Prince George Forest District (PGFD) in the central interior of British Columbia (Figure 1). Although a model previously developed for Canadian Forest Products Ltd. in Prince George (Brulotte and Canuel n.d.) has been in some use in recent years, creation of an updated model was felt advisable to address some previously-identified data gaps (Heffner *et al.* 2002) and which would be based on a greatly expanded PGFD site inventory over the last few years. The Brulotte and Canuel (n.d.) model is not map-based and does not meet current provincial standards and guidelines.

This report represents the conclusion of Phase I and Phase II of the model project. Phase I relates to information gathering and Phase II relates to the development of a working model. Phase III and IV relate to an approach to field testing and model verification respectively. However, some preliminary discussions of future project phases is included in the report to help guide these phases in the future.

The advent of GIS has greatly enhanced the analysis of spatial relationships used to produce predictive (archaeological potential) models (Anaya-Hernández 2001a, b; Ebert 2004; Eldridge and Mackie 1993). "Predictive models attempt to predict the location of sites or materials in a region, based either on a sample of sites in the region or on theories of human behavior" (Ebert 2004:323). These models tend to identify those areas on the landscape where the likelihood of finding archaeological sites is high.

Predictive modeling can follow either a deductive or an inductive approach. The former relies strongly on ethnographic analogy and/or on theories of human behavior and the latter on the archaeologist's empirical knowledge of a specific area, assuming that environmental variables can be used as archaeological site predictors (Ebert 2004; Marshall and Bond 2004). Deductive models have the advantage of explaining why archaeological sites occur at given locations, but have the disadvantage of the researcher's own biased preconceptions of human behavior possibly affecting the model's effectiveness. On the other hand, although inductive models seem to provide good end results, they are criticized because they lack explanatory power. Most importantly, they are poorly equipped to deal with data gaps. In other words, the model

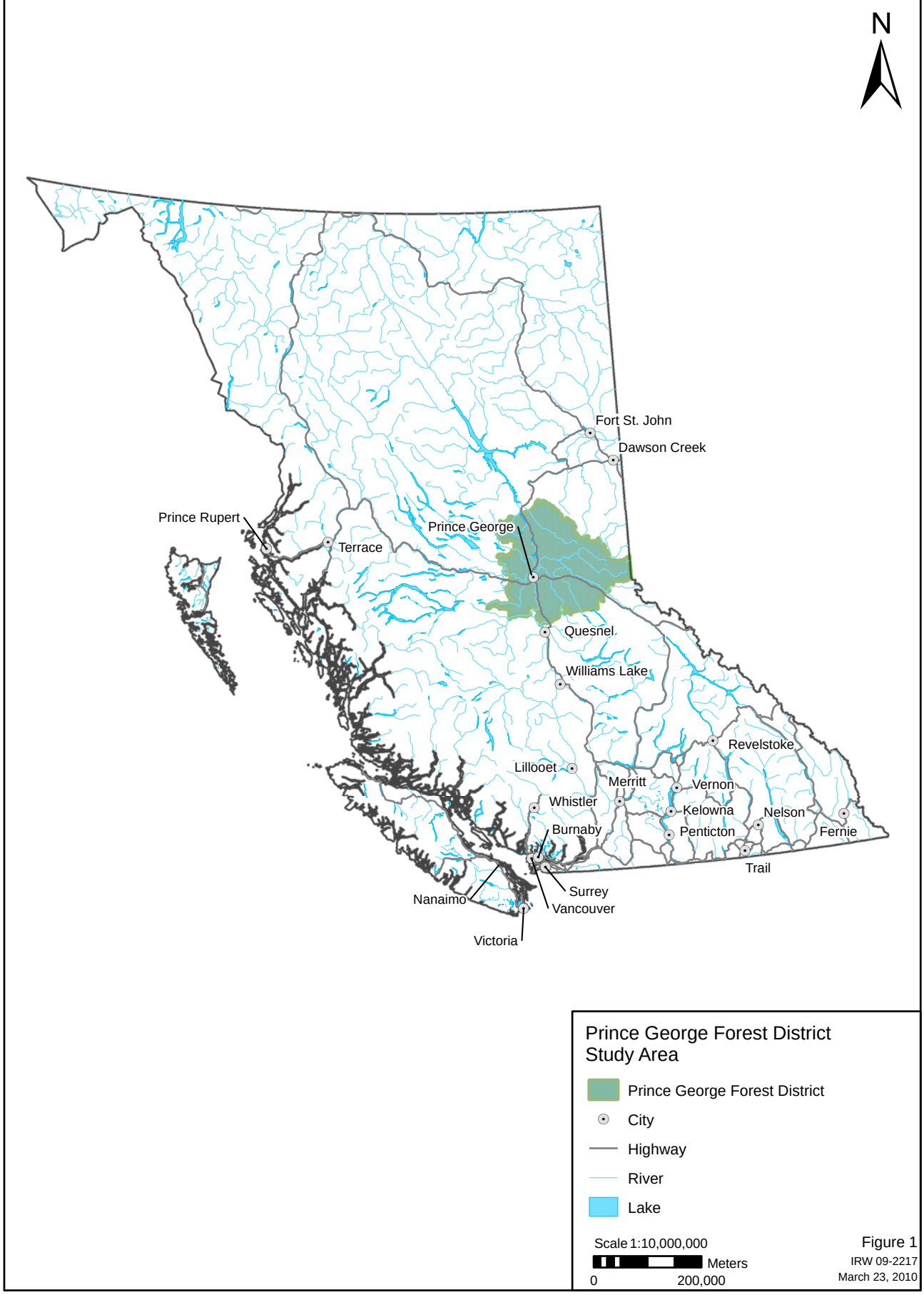

Figure 1
IRW 09-2217
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will yield good results where archaeological knowledge of a region is adequate, but will be unable to properly assess archaeological potential in poorly documented areas.

An inductive-deductive approach combining environmental and cultural variables, as dveleoped by Anay- Hernandez (2006) and Marshall and Bond (2004) was used in the present study. The model was developed following an inductive approach complemented with cultural data to check model accuracy. The main objective of this model is to identify those localities that are sensitive to archaeological site presence, thus enabling the planners to make well-informed management decisions where potential conflicts exist. Several environmental variables were statistically tested in order to identify their contribution to the identification of these areas.

2. STUDY AREA

The Prince George Forest District (PGFD) generally surrounds the City of Prince George in the British Columbia central interior at the confluence of the Nechako and Fraser rivers. Generally, the forest district extends from south of Chubb and Ahbua lakes in the south to the north end of McLeod Lake in the north, and from west of Carp and Naltesby lakes on the west to the western slope of the Rocky Mountain range on the east.

2.1 Environment

Most of the PGFD lies within the Interior Plateau physiographic region of central interior British Columbia. The landscape within this region is generally subdued with little prominent relief and is capped with thick deposits of glacial till (Pojar and Meidinger 1991) that are deeply incised by tributaries of the primary waterway, the Fraser River. Major tributaries include the Blackwater, Chilako, Muskeg, Nechako and Salmon rivers (Holland 1976). Relatively few bedrock outcrops are present in this area.

Eastern portions of the study area lie within the Rocky Mountain Trench, located along the western slopes of the Rocky Mountains, at elevations of over 790 m above sea level (asl) along the valley floors to over 1380 m asl along the tops of ridges (Heffner *et al.* 2002). Glacial till and lacustrine deposits are thick along the valley bottoms and lower hills, with rocky outcrops on steep, unstable upper slopes. Holland (1976) describes the Rocky Mountain Trench as an erosional feature between the Rocky Mountains and the height of land between Parsnip River and McLeod Lake.

The majority of the PGFD is located in the Fraser Basin portion of the Pacific Watershed. Holland (1976) describes the Fraser Basin as generally rolling morainal deposits left behind by the last glaciation, and dotted with small and medium sized depressions and water bodies such as Ahbau, Eulatazella, Nadsilnich, Naltesby, Pelican, Punchaw, Purden, Stony and Tagai lakes. Several areas exhibit glacio-lacustrine deposits from the glacial lakes formed during the fluctuations of Pleistocene age glaciers. The major waterways are the Chilako, Nechako and Salmon rivers in the western part of the district; in the eastern part of the district they are the Bowron, MacGregor and Willows rivers.

The northernmost portion of the PGFD is located in the Arctic watershed which drains to the north from its major rivers, the Crooked, McLeod and Parsnip, through Williston Lake, Peace River and Mackenzie River to the Arctic Ocean. A number of large water

bodies are present in this area including Carp, Davie, McLeod, Summit, Tacheeda, War and Weedon lakes.

Much of the Blackwater River area and other areas in the Interior Plateau exhibit geological features of mass movement. Earth slides and flows, both historic and prehistoric, are easily recognized on topographic maps. Distinct scarps of dormant earth slides can also be seen on air photos of the area. Further east, along the southern portion of the Rocky Mountain Trench, the mountains again become high and steep with deep valleys, greatly affecting the local climate.

Six biogeoclimatic zones, further subdivided into 20 subzones, are present within the PGFD. These range from localized areas of Interior Cedar-Hemlock in its wet eastern portion to vast expanses of Sub-Boreal Spruce in its western reaches.

The largest, the Sub-Boreal Spruce (SBS) zone (Meidinger and Pojar 1991), covers over 66% of the PGFD and is found throughout the Fraser Basin, on the Nechako and Fraser Plateaus, and in the valleys of the southern mountain ranges. Typically the SBS zone experiences cold snowy winters and warm moist but short summers. The mean annual precipitation is between 440 and 990 mm. Dominant climax tree species include subalpine fir and hybrid white spruce. Lodgepole pine (*Pinus contorta*) and trembling aspen (*Populus tremuloides*) are species associated with dry environments. Douglas fir (*Pseudotsuga menziesii*) and black spruce (*Picea mariana*) are also found within this zone. The SBS zone is further divided into seven subzones reflecting more localized ecological conditions, ranging from dry and warm in the south-central part of the PGFD to moist and wet in its northern and eastern portions.

The Engelmann Spruce – Subalpine Fir (ESSF) zone, representing over 25% of the study area, is found at higher elevations throughout the mountainous areas within the PGFD, generally found just below the tundra zones (Coupe *et al.* 1991). The climate throughout the zone consists of long cold and snowy winters with short cool summers. Engelmann spruce defines the climax forests with subalpine fir, while the seral stage (transitory community between the pioneer and climax communities of forest succession) is dominated by lodgepole pine. The ESSF zone is further subdivided into seven subzones, ranging from moist mild to wet cold.

The Interior Cedar-Hemlock (ICH) zone is found at the mid-level elevations throughout the study area's southern mountain ranges (Ketcheson *et al.* 1991). This zone is characterized by cool wet winters and warm dry summers and represents almost 6% of the PGFD. These conifer forests are very mixed, with western red cedar, hemlock, spruce and subalpine fir common in the climax forests and larch, Douglas fir and western pine common in the seral stages. Hummoferic podsols dominate this zone.

The remaining 3% of the area encompassed by the PGFD is comprised of three small biogeoclimatic zones. The largest, the Boreal Altai Fescue Alpine zone (BAFA) exists in the mountain tops of the Rocky Mountains, is generally non-forested with meadows and rocky outcroppings, and experiences a cold and wet climate. The Interior Mountain-Heather Alpine (IMHA) zone is the smallest of the alpine zones since the altitude at which it begins is above the height of most of the mountain ranges: 2500 m in the dry south to 1800 m in the north. There is much precipitation variation within the zone but summers are warm relative to the other alpine zones. The Sub-boreal Pine-spruce zone (SBPS) is a montane zone occurring in the PGFD only in the extreme southwest part of the Nechako Plateau, generally occurring at elevations between the SBS and ESSF zones at 850 to 1300 m. Lodgepole pine is the most common tree species in this zone, although white spruce and trembling aspen are also present. The SBPS is generally drier than the SBS, with similar mean daily temperatures in winter but cooler mean daily temperatures in summer (Steen and Demarchi 1991).

Common big game wildlife presently found in the PGFD includes moose (*Alces alces*), mule deer (*Odocoileus hemionus*), white-tail deer (*Odocoileus virginianus*), caribou (*Rangifer tarandus*), black bear (*Ursus americanus*) and grizzly bear (*Ursus arctos*), much of which has adapted to either survive or avoid the long cold winters. Historically, elk was prevalent in the Interior Plateau but was replaced by moose in the late 1800s. In the more mountainous terrain, bighorn sheep (*Ovis Canadensis*), stone sheep (*Ovis dalli stonei*) and mountain goats (*Oreamnos americanus*) are found. Numerous fur-bearing species including lynx (*Felis lynx)*, red fox (*Vulpes vulpes*), beaver (*Castor Canadensis*), river otter (*Lontra canadensis*), muskrat (*Ondatra zibhethicus*), fisher (*Martes pennanti*), wolverine (*Gulo gulo)* and marten (*Martes americana*) are also found here. Rodents are abundant, notably the deer mouse (*Peromyscus maniculatus*), southern red-backed vole (*Clethrionomys gapperi*), red squirrel (*Tamiasciurus hudsonicus*), northern flying squirrel (*Glaucomys sabrinus*), porcupine (*Erethizon dorsatum)* and woodchuck (*Marmota*

monax). The snowshoe hare (*Lepus americanus*) is also abundant. Owls, grouse, various songbirds, birds of prey, cavity nesters and perching birds are widespread, as are waterfowl and some species of shorebirds. Most bird species migrate south for the winter although some, like the Pine Grosbeak (*Pinicola enucleator*) and Red Crossbill (*Loxia curvirostra*), remain year round (Meidinger and Pojar 1991).

Wetland habitats are extensive in the lowlands and there are many creeks and smaller lakes throughout. These wetlands support a variety of freshwater fish species including trout (*Oncorhynchus* sp), char (*Salvelinus alpinus*), whitefish (*Prosopium* spp), Arctic grayling (*Thymallus arcticus*), burbot (*Lota lota)*, Kokanee (*Oncorhynchus nerka*) and sturgeon (*Acipenser* spp). Anadromous fish, particularly Chinook (*Oncorhynchus tsawytscha*) and sockeye (*Oncorhynchus nerka*) salmon, are found in the major waterways and tributaries in the Pacific watershed.

2.2 Palaeo-environment

Central interior British Columbia became ice free between 11,000 and 10,500 years before present (B.P.); by 9,500 B.P. glaciers were no more extensive than they are today (Ryder and Clague 1989: 48). Following deglaciation, regional climate and vegetation went through a number of transitional stages before reaching their modern configurations. Hebda (1995) describes the Northern Interior Plateau as a transitional area prone to biotic shifts during slight changes in climate. For instance, under warmer drier conditions the Interior Douglas Fir Zone could advance northward while during cooler drier times the Montane Spruce Zone or Engelmann Spruce-Subalpine Fir Zone could expand downslope and occupy large portions of the B.C. central interior.

No palaeo-ecological information is available for the Prince George Forest District, the nearest source for this data coming from Pantage Lake, located 8 km south of the southernmost portion of the forest district (Hebda 1995). Due to the large area covered by the PGFD and the ecological diversity it contains, the following brief palaeo-ecological summary can only be confidently applied to its southern reaches. Based on the large influx of grass pollen (*Poaceae*) into this area between 9,200 and 7,000 B.P., vegetation at this time appears to have been more open than at present. Increasing forestation between 8,000 and 7,000 B.P. suggests a rise in moisture levels during this period which then stabilized and persisted throughout the Holocene. At around 5,000 B.P., a

pronounced shift occurred with spruce becoming dominant over pine as the most common tree species. This change may signal a shift from an environment analogous to the Sub-Boreal Pine-Spruce Zone (SBPS) to one more like the SBS conditions predominant at Pantage Lake today.

Evidence for early human occupation following deglaciation in the British Columbia interior is sparse. At Charlie Lake Cave in the Fort St. John area northeast of the study area evidence shows human habitation dating to 10,500 years B.P. (Driver *et al.* 1996) while a recent excavation in the Prince George area suggests site occupation around 9,700 B.P. (Burford *et al.* 2008). R. Carlson (1997) states that between 4,000 and 6,000 B.P. the northern interior saw intermingling of influences from the north, east and south. When the climate and glacial drainages began to stabilize, interior waterways became more habitable for salmon, which allowed people to depend on the annual salmon runs as a reliable food source (Carlson and Mitchell 1997). By 3,000 to 4,000 B.P., the upper Fraser River area saw a shift from nomadic to semi-sedentary lifeways through the establishment of villages along rivers and lakeshores. Sites supporting such a hypothesis include the village of Tezli on Tezli Lake dating to 3,850 B.P. (Donahue 1977) and the Punchaw Lake Site dating to around 4,000 B.P. (Fladmark 1976).

3. ETHNOHISTORY

The PGFD covers a large area that contains asserted traditional territories of both Carrier and Sekani speaking peoples. The Carrier and Sekani linguistic groups form part of the larger Athapaskan language family and exhibit distinct cultural traditions. The Carrier group occupied most of the study area (approximately two-thirds of the PGFD), including the Bowron, Fraser and McGregor river drainages to the east and the Nechako and Chilako river drainages to the west and southwest. The Carrier are represented in the forest district by the Lheidli T'enneh, Nazko, Nak'azdli, Red Bluff and Saik'uz peoples, along with the Takla Lake Band. The McLeod Lake Band is the only Sekani First Nation asserting traditional territory in the forest district. The two summaries of Carrier and Sekani ethnographic patterns provided below focus on cultural activities most likely to have affected the PGFD archaeological record.

3.1 Carrier

The following brief review of Carrier ethnography derives from several documented sources including Blacklaws (1978, 1979, 1980), Borden (1951, 1952), Cassidy and Cassidy (1980), Cole and Lockner (1989), Duff (1952), Furness (1993a, b), Hudson (1983), Montgomery (1978), Morice (1978) and Tobey (1981).

The Carrier were the original inhabitants of the study area and at the time of European contact numbered approximately 8,500 individuals (Tobey 1981: 416) throughout their entire territory, which extended in the southwest to the Anahim Lake area and northwest to include Babine and Takla lakes. The semi-nomadic Carrier seasonal subsistence round involved the summer/fall aggregation of the group at selected fishing camps chosen for the availability of migrating sockeye and spring salmon. Salmon runs varied considerably throughout Carrier territories and required some groups to travel further than others. Nevertheless, all groups in the region relied on this important food resource. Settlement near these locations involved several families who used the same fishing location each year. Berry gathering and preservation was also carried out at this time of the year. A variety of berries was available and also constituted an important food source. The winter and spring saw a dispersal of the group as food stores required replenishment. Game and fresh water fish were now sought, usually at nearby lakes and streams and in the surrounding forests. Caribou, elk, moose, deer, goat and bear were among the large mammals taken, although smaller mammals such as marmot, beaver, muskrat, lynx and

rabbit were also hunted. In late spring, pine cambium was collected for an additional and sometimes necessary food source, a practice which persisted well into the 20th century.

The Carrier built a variety of above-ground house types in addition to semi-subterranean dwellings (Morice 1978). These included summer and winter lodges, ceremonial lodges for feasting, fishing lodges and structures used for rites of passage. The largest of these, the ceremonial lodge, measured approximately 10 x 15 m, although remains of semi-subterranean pithouses, measuring on average 7 m wide by 1 m deep, are more commonly found in the archaeological record.

Food storage was accomplished through the use of cache pits, small circular holes dug into easily excavated soils (i.e. sands, silts, loam, fine gravel) usually along hunting trails, close to berry patches or in large numbers near village sites. Food was generally dried or smoked before placement into the pits between bark layers and covered with brush and earth until needed. Cache pits are identifiable during archaeological studies as small circular depressions averaging 1-2 m in diameter and 50 cm in depth.

A wide variety of implements were used for hunting, fishing and plant gathering. Stone tools (e.g. projectile points, knives, scrapers, etc.) were used throughout the study area and are commonly recovered from archaeological sites, as is chipping debris related to the manufacture of these tools. During ethnographic and historic times, many kinds of traps, snares and hunting blinds were used to aid in the procurement of game for the winter season. Salmon was a heavily relied-upon resource. Large weirs built across the mouths of rivers and lake outflows were used to catch salmon in slow-moving currents. Transportable latticework traps constructed along shorelines were used for the same purpose in deeper waters and faster flowing currents. Used in conjunction with basket traps at the top of narrow waterfalls, migrating salmon could be caught as they attempted to ascend the falls. Dip nets, leisters and harpoons were employed from rocky outcrops overlooking rapids where salmon gathered in large numbers.

3.2 Sekani

The Sekani people assert territory in the northernmost portion of the PGFD, extending west from the Parsnip River area in the east to include McLeod Lake and the area around Carp Lake, where the group referred to by Jenness (1937) as *Tsek'ehne* was based. The Sekani originally spent late fall to early spring east of the Rocky Mountains hunting

buffalo and other large game, but summered on the west side of the mountains. By the early 19th century, they were forced from the east side of the Rockies into the mountains on a more year-round basis due to continuing conflicts with the Beaver Indians (Morice 1978:30; Denniston 1981:435). Resources were limited in the mountains and the Sekani gradually moved into the area west of the mountains in search of them. They hunted year round for caribou, moose and smaller game including sheep, beaver, porcupine and rabbit, and fished primarily for a variety of non-anadromous species. Plant gathering was also important, and many of the local plants were utilized for food and medicinal purposes. The Sekani lived a nomadic lifestyle with a well defined seasonal round, visiting the same areas for the same resources each year. The group was organized at the band level and split up into smaller family groups when food was scarce. The Sekani had no permanent village sites due to their frequent movement from one area to another. Dwellings and shelters often took the form of tipis covered with moose hide and bark. Tool technology materials included chipped stone for scrapers, knives, and projectile points for bows and arrows, etc.; bone for clubs, hooks, scrapers and fleshers; willow and nettle fibres for fishing nets, and; bark and spruce roots for baskets. Land in the PGFD was primarily used by small family units living in temporary way camps or hunting camps. Small depressions denoting roasting or cache pits, surface and/or subsurface scatters of cultural materials, trails or trail indicators such as blazes or trees stripped of their bark for cambium collection, are among the known site types found in Sekani traditional territory.

4. HISTORY

Although Europeans first arrived by boat off the coast of British Columbia in 1774, the interior of the province was largely excluded from direct European contact until 1793 with the arrival of Alexander Mackenzie, a partner in the North West Company, in Carrier territory. Mackenzie and his party were welcomed by the Carrier, who led them along an aboriginal trail following the Blackwater River for almost 200 km, soon after which Mackenzie's party reached the Bella Coola valley (Furness 1993b). Establishment of the North West Company in northern B.C. quickly followed, with construction posts near or within the PGFD, specifically Fort McLeod on McLeod Lake in 1805, Fort St. James on Stuart Lake, Fort Fraser on Fraser Lake in 1806 and Fort George (north of present-day Prince George) in 1807. Fort St. James was later renamed New Caledonia and served as headquarters for the entire fur-trading district. In 1821, the North West Company merged with the Hudson's Bay Company (HBC), sparking further increase in fur-trade fort construction throughout the area (Tobey 1981).

Trade with the Carrier and other First Nations began soon after, with the advent of the fur trade leading to changes for the aboriginal groups in subsistence strategies from hunting and gathering to a combination of the traditional economic base and fur trapping to obtain European manufactured goods. The seasonal round of activities altered to allow the increased catches of fur-bearing animals sought by the trading posts. After the fall hunt, the Carrier would usually congregate for short periods of time near the posts before spending the remainder of the winter widely dispersed in their own hunting and trapping areas (McClellan 1981).

During the middle part of the 19th century, disease devastated native populations causing great disruptions to past political and economic patters. Duff (1964) estimates that half of the Carrier population died from European-introduced diseases, including smallpox, between 1835 and 1885. This led to consolidation of bands, shifting of hunting territories and, responding to a reliance on white goods and a lesser need for a wide geographic range for subsistence exploitation, to a pattern of more sedentary settlement.

In 1857 the discovery of gold along the Fraser River near Quesnel, just south of the PGFD, resulted in the arrival of thousands of gold miners to central and northern British Columbia, leading to the establishment of Quesnel in the early 1860s as a primary economic and distribution centre in the region. This resulted in the establishment of "free

traders" at Quesnel, offering an alternative to the trade monopoly engendered up to that time by the HBC. The gold miners and the free traders were the first serious intrusions on the HBC's domination over the interior of British Columbia.

Around the beginning of the 19th century, competition and declining returns forced drastic cutbacks in personnel and the number of posts. Fort George and Fort Fraser were closed and, after 1918, Fort St. James emphasized retail sales over fur trading. The construction of the Grand Trunk Pacific Railway and the Pacific Great Eastern Railroad opened the district to extensive commercial mining and lumbering. Native trappers began registering individual traplines with the provincial government in 1926 and heavily relied on their yield until the 1940s, when the market dropped considerably.

5. ARCHAEOLOGY

5.1 Previous Archaeology

The earliest archaeological investigations carried out in the Central Interior took place in the 1950s (Borden 1951, 1952; Sewell 1950), with most archaeological work being conducted in the Blackwater River area in the southwest corner of the PGFD. Since then, several archaeological projects have been undertaken throughout the district, many in response to industry-related projects.

Very few research projects involving controlled excavation have occurred in the vicinity of the study area. Borden's early work at Chinlac village (GaRv 1) and at Natalkuz Lake in the 1950s (Borden 1952) and Donahue's research (1970, 1972, 1977) at Ulkatcho village (FfSk 1) and Tezli Lake (FgSd 1) are near but outside the forest district, but are culturally associated. Within the PGFD, excavations at Punchaw Lake (FiRs 1), begun by Fladmark (1976) and continued by Montgomery (1978), resulted in the discovery of 43 house platforms, 57 cache pits, a trail and surface and subsurface cultural materials, and 40 more sites in adjacent areas. FiRs 1 was determined to have been intermittently occupied over the last 4,000 years, with its last major occupation occurring between 200 and 300 years B.P. Hudson conducted smaller excavations at FkRr 1 at Nadsilnich Lake (1973) and at GaRo 1 at Giscome (1974). More recently, Burford *et al*. (2008) reported on an excavation at FlRq 13 in Prince George, located on a palaeo-channel of the Fraser River, where recovered radiocarbon dates suggest an occupation as early as 9,700 B.P. This date closely follows deglaciation, after which occupation continued for approximately 1200 years, when the site was apparently abandoned until approximately 500 B.P. Over 31,600 non-diagnostic lithic specimens, including over 30,000 pieces of debitage, were recovered from this site.

Within the Blackwater portion of the study area, several landscape surveys have been conducted. Helmer and Wilson (1975) completed an extensive survey of the Blackwater River drainage basin, resulting in the discovery of 293 new sites (most outside the PGFD), four of which were determined to represent village sites with potential significant antiquity, from which the authors concluded that the Blackwater drainage was a "climax area" of prehistoric Carrier settlement. From 1978 to 1980, Blacklaws (1978, 1979, 1980) also conducted an archaeological inventory project of the Blackwater drainage, resulting in the discovery of approximately another 200 sites. Wilson (1983, 1986 a, b) surveyed five sections of the Alexander Mackenzie Heritage Trail from the lower Blackwater

Bridge crossing to the Natiniko River at Batnuni Road, resulting in the discovery of 11 new sites within the PGFD.

Very little archaeological study has been undertaken in the northern portions of the PGFD, with the exception of large and productive site inventory surveys carried out in the 1970s at Carp Lake (Brown & Ferguson 1974; May 1977) which resulted in the discovery of 123 new sites. In the northeast portion of the PGFD, a small survey conducted in 1976 for the then-proposed McGregor River Diversion Project in the Parsnip River drainage area resulted in the discovery of seven new archaeological sites and several historic sites, mostly historic camps or cabins (Cassidy 1976). Excavations at Fort McLeod, established in 1805 at the north end of McLeod Lake, have also been carried out by Burley and Quackenbush (1986). More recently, ongoing work by I.R. Wilson Consultants for the Enbridge Northern Gateway pipeline has been conducted for the portion of the right of way crossing the northern portion of the PGFD (Weathers *et al.* 2007).

Since the 1970s, increasing resource development, primarily in the forestry industry, has required associated archaeological studies. Research at the Archaeology Branch of the Ministry of Tourism, Culture and the Arts indicates that, from 1970 to 2009, at least 94 *Heritage Conservation Act* heritage inspection permits were issued by that office to authorize the completion of archaeological studies within the area bounded by the PGFD. Since 1995, 37 of these permits have been for archaeological studies relating to the forest industry, most being blanket permits that allow the completion of several dozen archaeological impact assessments (AIAs) for one or more clients under one permit (eg. Bond 2002; Brulotte and Canuel 2002; Cadden 2001, 2003, 2006; Canuel 2004, 2006; Canuel and Botting 2008; Canuel and Cadden 1997, 1998, 2000; Gilbert 1999; Horrell 2010; Vincent and Owen 2000). These totals do not include at least nine alteration permits and over 20 inspection permits where no reports have yet been submitted or accepted.

A complete list of the 94 heritage inspection or investigation permits issued for work in the PGFD, where final reports have been submitted and accepted by the Archaeology Branch, is provided in Appendix A.

5.2 Archaeological Site Types

A site inventory form review conducted at the Archaeology Branch for the present study determined that 661 archaeological sites are currently recorded within the PGFD. Six main types (or type combinations) are represented among these sites, including cultural depressions, lithic scatters, culturally modified trees, isolated lithic finds, historic and/or trail sites. Five sites, included in the site tally for the PGFD, have been deemed "legacied" candidates by the Archaeology Branch (i.e. not considered to be archaeological and/or locatable based on poor locational and/or very anecdotal site form information) and were dropped from the original total. Furthermore, as 84 sites are not protected under the *Heritage Conservation Act* by virtue of the fact that they represent historic remains, post-1846 CMT sites, legacied sites and/or are located on federally-managed lands such as Indian Reserves, presently there are 579 protected sites in the PGFD. A complete current site inventory for the district is provided in Appendix B.

The following nine site types can be expected to be discovered within the PGFD with varying degrees of certainty. Most of these are already represented in the existing site record for the district, as determined from the above-noted site inventory review, with the remaining types expected, although probably in very small numbers. The below-noted site types are listed in order of their recorded occurrence within the district but not necessarily in order of their significance in the analysis of the PGFD's archaeological site distribution.

5.2.1 Cultural Depressions

Cultural depression (CD) sites, the largest site category within the PGFD, consist of one or more surface-excavated pits that may represent food cache pits, roasting pits or habitation features. Two hundred and seventy-five (275) sites consisting solely of cultural depressions are recorded within the PGFD, almost all of these being interpreted as cache pit sites. Two sites were noted as consisting solely of possible single house depressions or platforms, although their presence was also described at three other sites in association with other site types, including the Punchaw Lake Site, and another site consists of two 1.5 m x 4 m depressions of unstated function. Cache pits are usually circular in configuration, range in diameter from 0.75 m to 2 m, and are up to 1 m deep, whereas house pits usually measure ~5 m or more in diameter. The range in the number of cultural depressions recorded for each cache pit site is extremely wide, ranging from a single depression to more than 250 at the largest site, FlRr 20. Distribution of this site type is

skewed in favour of Carp Lake in the northwest part of the PGFD, where 120 sites consisting solely or partially of cache pits were identified around part of its perimeter during two archaeological surveys in 1974 and 1977 (Brown and Ferguson 1974; May 1977).

5.2.2 Lithic Scatters

Lithic scatter (LS) sites, the second largest category (144 sites), are defined as surface and/or subsurface dispersals of lithic (i.e. stone) tools and/or chipped stone flakes left over from the manufacture of those tools. For the purposes of this review a lithic scatter was considered to consist of at least two artifacts, although several hundred (e.g. FiRv 14 at Meadow Lake, FjRu 2 at Naltesby Lake) to several thousand (e.g. FiRs 1 at Punchaw Lake) are present at a few sites within the PGFD.

5.2.3 Culturally Modified Trees

In the most general sense, culturally modified trees (CMTs), which represent the third largest archaeological site category in the PGFD, are any trees showing human modification. In a more specific and commonly used sense, CMTs are trees that have been modified by aboriginal people for traditional purposes such as removal of bark or wood for traditional building materials, and removal of cambium for consumption. Provincial guidelines require that most CMTs be recorded as traditional use sites unless they are confirmed or likely to pre-date AD 1846. In the Prince George Forest District, bark- and/or cambium-stripped lodgepole pine is the most common type of CMT, although a single instance of a spruce bark-stripped feature is also known from the site record. Within the PGFD, there are 90 CMT sites formally recorded as archaeological sites, 74 of these consisting of bark-stripped (B/S) features. Each of these sites contain from as little as a single bark-strip feature to as many as an estimated 1424 features (Horrell 2010). Two sites consist entirely of aboriginally-logged (A/L) features (in each case adzed logs or trees) while seven sites consist of both B/S and A/L (6 kindling-chopped trees, 1 adzed canoe) features. Two other sites with adzed canoe remains and 11 with bark-stripped CMTs are also represented in an additional 13 sites associated with other site types such as trails, lithic scatters or cultural depressions.

Most of the 74 B/S sites have been subjected to increment coring in order to determine their dates of modification and, therefore, their protection status under the *Heritage Conservation Act*. Forty-seven of these sites were found to contain bark-strips which

reflected modifications prior to AD 1846 and are therefore protected. Twenty-seven sites were found to consist solely of post-1846 AD modifications and are therefore not protected. Bark-stripping dates were found to range from 1801 AD to as late as 1978 AD. Of the 11 sites containing aboriginally-logged features, only the 3 sites containing adzed canoes and the two containing adzed logs or trees automatically fall under *HCA* protection.

It is important to note that the above 90 CMT sites reflect only those sites which have received Borden site numbers from the Archaeology Branch, a practice which was halted by that agency in February 2000 for those sites confirmed in the field to consist of only post-1846 AD features. An examination of the several permit reports available at the Archaeology Branch for forestry AIAs conducted in the Prince George Forest District between 2000 and 2009 determined that at least 384 additional CMT sites, almost all consisting of bark- and/or cambium-stripped lodgepole pine and containing from one to several hundred features, have been recorded in the PGFD since 2000 as traditional use or unprotected CMT sites. Therefore the number of protected and unprotected CMT sites within the Prince George Forest District totals over 474.

5.2.4 Isolated Finds

Isolated finds (i.e. single artifact occurrences) are represented in the existing site record. Fifty-four sites are recorded, some as surface and some as subsurface. All of the isolated finds reviewed during this study consisted of lithic artifacts. It is likely that intensive testing at most of these sites would result in additional discoveries that would change their classification from isolated find to lithic scatter.

5.2.5 Historic Sites

The 32 historic sites in the current PGFD. The site record consists of two protected historic forts FlRq 3 (Fort George) and GfRs 2 (Fort McLeod). Among non protected sites, 15 log cabin sites (three with associated features), seven sites containing historic buildings (six protected by municipal designation), one historic graveyard (protected by *Cemetaries Act*), one historic ferry crossing and six miscellaneous occurrences of historic remains. Given the late date of most historic sites, they are usually not considered in the analysis of prehistoric site distribution, but are recognized as part of the PGFD's cultural landscape.

5.2.6 Trails

Trails within the Prince George Forest District represent transportation corridors frequently following well-traveled game trails or aboriginal trails along lakes, rivers, creeks and other geographical features. Because of their ambiguous nature, trails are rarely identified as archaeological sites, unless directly associated with other prehistoric site types, but instead are noted as historic and/or traditional land use features. Nonetheless, they contribute to the overall distribution of archaeological sites in a given area. Within the adjacent Vanderhoof Forest District, for instance, it has been conclusively demonstrated that 60% of recorded archaeological sites are found within one km of historically documented trails (Carlson and Mitchell 1997:38).

Historic trails and roads of significance to the history of British Columbia or documented in direct association with prehistoric archaeological sites or documented aboriginal trails are protected under provisions of the *Heritage Conservation Act*. Within the PGFD the most well-known trail is the easternmost ~60 km long section of the 450 km long Alexander Mackenzie Heritage Trail (AMHT) located between the confluences of the Fraser and Blackwater rivers and the Blackwater and Euchiniko rivers but which extends outside the district as far west as the Bella Coola valley. First traversed in 1793 by Alexander Mackenzie and his crew, the AMHT was originally part of an extensive network of aboriginal trails used for trade and travel, was integral to the development of the Fur Trade, and continued to be a primary travel corridor in B.C.'s central interior well into the mid-20th century. As of 2000, over 80 archaeological and heritage sites had been recorded along the PGFD portion of the AMHT (Canuel *et al.* 2001). The AMHT was designated in 1987 as a significant part of the province's history and is protected under the *Heritage Conservation Act*.

Some of the other several trails (e.g. Punchaw Lake-Fraser River Trail) recorded in the district are also protected due to a recorded link with the AMHT or the likelihood that such a link exists, or to other information which attests to their pre-1846 use as aboriginal trails. Of the 19 trail sites recorded in the district, 17 (including five separate sections of the AMHT) are considered pre-1846 AD sites; these include the Isadore Trail in the Parsnip River area and the Duzcho Trail in the Carp Lake area.

5.2.7 Petroforms or Cairns

Petroforms are culturally produced rock or stone alignments, markers or structures such as cairns or fish weirs. Petroforms are frequently the remains of functional features, such as fish weirs, dams and canoe skids, but can be associated with human burials, such as cairns. One site is recorded within the study area. The only cairn site known in the district is likely historic, an isolated pile of rocks on a ridge probably denoting a recreation trail.

5.2.8 Human Burials

This category includes sites that contain material remains and features associated with prehistoric mortuary practices. Interments in the historic period can also be reported in association with recorded archaeological sites. Information about historic cemeteries or individual or family interments can often be acquired through documentary research and consultation with local residents.

Prehistoric burials are difficult to identify because of their generally unmarked nature, although cairns, stone circles, or grave effigies sometimes mark them. Human remains are also found occasionally interred in talus slopes, although none are presently known within the subject area. The only human remains sites presently recorded for the PGFD are a historic graveyard extending into the Fort George grounds and another set of graves, also possibly historic, on an Indian Reserve on the Blackwater River. Human remains have also been recovered during excavations at the Punchaw Lake Site and another site on the Chilako River.

5.2.9 Rock Art Sites

Rock art sites can be classified into two basic types: pictographs and petroglyphs. Pictographs are painted images and petroglyphs are pecked or ground images in rock. Pictographs are generally red ochre stained drawings often placed in highly visible locations. Images that have been recorded in the interior include human figures, faces, boats, animals, mythological figures, directional markers and abstract images. Petroglyphs, rare in the interior and mostly a coastal phenomenon, depict similar though not identical subjects to pictographs. Petroglyphs tend to be far more difficult to identify and are thought to have a greater potential time depth than pictographs because of factors of preservation. However, no studies have been undertaken to test this assumption and little is known regarding possible functional, temporal or cultural differences between pictographs and petroglyphs. Although there are no recorded rock art sites within the

PGFD, the possibility of their presence along major waterways such as the Fraser and Blackwater rivers, and large water bodies such as McLeod, Carp and Punchaw lakes should not be discounted.

All lithic sites, as well as almost all of the cultural depression sites, are considered to fall under the automatic protection of the *Heritage Conservation Act (HCA)* and may not be disturbed except under an *HCA* permit. This protection does not necessarily extend to the other site types although many of them are so protected, as noted above, where supported by testing results (e.g. increment core dating in the case of CMTs) or strong historical or ethnographic information. As noted above, adzed CMTs are considered aboriginally-logged features of relative antiquity and, in the absence of information to the contrary, fall under automatic *HCA* protection. Burial sites, regardless of age, also automatically fall under *HCA* protection.

It should be noted that the nine types noted above are sub-types or variations of the eight basic types used by the Archaeology Branch, these being:

- Cultural Material
- Earthwork
- Habitation
- Human remains
- Petroform
- Rock art
- Subsistence feature
- Trail

Using the Archaeology Branch typology, there are 361 subsistence feature sites (275 cache pit and 86 CMT sites – only those recorded with Borden numbers), 198 cultural material sites (144 lithic scatters and 54 isolated finds), 17 trail sites, three habitation sites, one cairn site, and one human remains site, for a total of 581 sites. Rock art sites are not represented in the current inventory. The rest of the 629 sites (the 30 historic sites and 5 legacied sites are not included) in the PGFD are comprised of various combinations of two or more of the above eight site types, with two of these containing possible earthworks (mounds).

5.3 Archaeological Potential

Archaeological potential is a term used to describe the relative probability that archaeological sites are present at any given location or in a given area, based on currently-known archaeological site distribution and at least a general comprehension of past human settlement, subsistence and cultural patterns within that area. Archaeologists usually cannot predict the percentage (e.g. 75%) probability that an archaeological site is present at a given location because exact site locations are somewhat unpredictable due to complex variations in temporal, cultural, geographic and other factors. Rather, the probability that a site is present in an area or type of area is presented as a relative statement. For instance, it is usually more likely that sites will be located in river valleys (high potential) than on steep mountain slopes (low potential). Furthermore, as all parts of the landscape are considered to have at least some archaeological site potential, the term "no potential" is not used as a general application. For instance, although a location on a steep slope may have no potential for culturally modified trees or habitation sites, it may in fact have high potential for other site types, such as aboriginal trails or rock art.

Based on results of previous studies conducted in the region, severable variables which reflect archaeological potential have been isolated. These include but are not necessarily limited to the following:

- Level terrain adjacent to creeks, on slopes along ridges, terraces or hillsides, especially along lake and river terraces.
- Hummocks or rises within rolling to level terrain.

These criteria are strengthened if any of the following secondary characteristics are present at or near the feature identified by the above criteria.

- Well drained topography as reflected by pine and aspen forests.
- Presence of nearby water sources such as streams, seasonal creeks, lakes, muskegs, sloughs and mineral springs/licks.
- Presence of adjacent features such as slope which constrain game movement.
- Areas of good visibility of the surrounding area.
- Linear high elevation providing travel routes between major geographical features.

Many other factors such as protection from wind, south facing (usually warmer) exposures, and proximity to suitable raw material locations or places of traditional spiritual significance can also influence site location.

These criteria appear to be well reflected in the locational descriptors in the PGFD site inventory table (Appendix B), taken from the site inventory forms housed at the Archaeology Branch where such information has been provided. According to the site forms, of the 629 sites recorded in the district (historic and legacied sites are not included), 530 sites (or almost 85%) were found to be located within 100 m of potable water. Two hundred and fifty-eight sites are located near lakes, 177 near rivers, 46 near creeks and 49 near small ponds or wetlands. Of these sites, and where noted, the site records indicate locations on terraces, benches, eskers or banks in 306 cases, with the north side of the water body or water course indicated in 177 (or 58%) of these instances. Another 50 sites appear to be located on terraces overlooking water where no directional relationships between the sites and the water sources are provided. Thirty-eight additional sites are found on islands, almost all of these located in Carp Lake where the largest lake-oriented archaeological survey in the PGFD has occurred to date. Twenty-three sites are described as being located on ridges or knolls, but not necessarily associated with water, while another four are indicated as being located at the confluences of two watercourses. Several of the sites found along lake shores are also described as being situated near the mouths of tributary creeks.

5.4 Relevant Predictive Models and Associated Studies

5.4.1 Archaeological Potential/Predictive Models in Adjacent Forest Districts

5.4.1.1 Vanderhoof FD

The Vanderhoof Forest District (VFD) model is an example of an inductive model in that it assumed that the criteria contributing to the presence of archaeological sites at known locations could be successfully applied to other places with the same general landscape characteristics (Carlson 1996). Information from the total 1996 VFD inventory of 540 sites was used to develop the model.

The model identified buffers of varying archaeological potential around significant landscape features within each of five VFD sub-zones, these being: I - trail corridors, II - glacial Lake Nechako, III - high elevation areas above 1,150 m, IV - middle elevation areas from 790 to 1,150 m, and V - low elevation areas below 790 m. The Trail Corridor sub-zone took precedence over all other sub-zones.

The primary landscape variables used in this model included: lakes, both big and small; ponds; primary, secondary and tertiary streams, and; wetlands. The only cultural variable

employed was trails, considered an integral part of the model since 60% of the known sites in the VFD in 1996 were located within one km of a trail. Additional variables of lesser importance included known archaeological sites, slope, eskers, moderate potential areas, and informant information.

High, moderate and low potential zones were identified within each of the above sub-zones, except for Sub-Zone III, which was defined as having unproven potential due to the fact that no high elevation sites were known for the VFD in 1996.

Where logging developments were proposed, the following recommendations were made: AIAs for areas of high archaeological potential; PFRs for areas of moderate archaeological potential; no further work for areas of low potential, and; development of sampling strategies to investigate archaeological site distributions in areas of unproven potential. Recommendations were also made for continuation of archaeological inventory studies within the VFD and completion of traditional use studies with First Nations, incorporation of new information from these studies into the model, and annual re-assessment of the model in reference to this added information.

5.4.1.2 Quesnel FD

The archaeological overview assessment (AOA) of the Quesnel Forest District (QFD) is also an example of an inductive model (Howe and Klassen 1998). Relevant biophysical data such as stream and wetland locations, forest cover, topography, landforms, and wildlife habitat areas, as well as cultural data such as trail and wagon road routes and known archaeological site locations, were employed in developing the model, which mapped archaeological potential within the QFD into four classes: high, moderate-high, moderate and low.

A series of minimum recommended actions were described for each class of potential: a) high potential areas required an intensive archaeological impact assessment (AIA); b) moderate-high potential areas required a judgemental AIA; c) moderate potential areas were to be subjected to a development specific archaeological overview assessment (AOA), and; d) low potential areas, despite having the lowest probability of containing archaeological sites, still required advising forestry staff that there was some potential for disturbing archaeological sites and the consequences of those impacts.

Other recommendations included: a) First Nations consultation for all classes of potential as it was noted that studies in the Cariboo Forest Region had demonstrated that First Nations could provide good information regarding the location of certain types of sites including trails, rock art sites and isolated burial site locations which are very difficult to predict, and; b) establishment of a schedule and process for reviewing and revising the model by the Ministry of Forests and the Archaeology Branch as new information became available.

5.4.1.3 Headwaters FD

The archaeological predictive model for the Headwaters Forest District (HFD) was prepared for Valemount Forest Products Ltd. (Canuel *et al.* 2007). The report suggests that the previous model in use, an inductive model, was only an AOA based on the then-current locations of sites in the HFD and, using this information, where future sites might be found. The AOA was described as failing to incorporate the cultural relationship between the environment and hunter-gatherer societies and to apply archaeological knowledge and intuitiveness of an area, and that it lacked a sufficient number of variables.

The 2007 version is an example of a deductive model in that it attempts to predict human behaviour and its associations with past landscapes and environments. Deductive models are easier to apply in areas with little to no previous archaeological research and/or where the existing site inventory is represented by relatively few sites (only 106 known sites were used in building the HFD model). The model uses the weighted value method which assumes that each landscape variable contributes differently to the prehistoric land-use decision process. To account for this differentiation, each landscape variable is given a different weight or score to reflect its importance. Weighted variables include surface materials, sediments, aspect, bio-geoclimatic zones, hydrology, fish, drainage, culture heritage resources, significant land features, surface expression and slope. Based on the score totals when the variables are applied to given areas, three levels of archaeological potential (high, medium, low) are determined. Recommendations for various levels of work (AIA, PFR or No Further Work) are made based on the scores obtained for the assessed areas.

The authors noted that this model was intended as part of a complex heritage management plan, complemented with archaeological inventories and a thorough

assessment of landscape conditions that can affect archaeological site distribution. Additional recommendations included completion of a statistically sound and unbiased field inventory in presently unsurveyed areas of the HFD to ground truth the model's predictive strength, and involvement of First Nations in the data accumulation process.

5.4.2 Archaeological Potential/Predictive Models in the Prince George Forest District

5.4.2.1 Early AOAs and Related Studies in the Prince George Forest District

An AOA conducted in 1995 for the Prince George Land and Resource Management Planning (LRMP) Subregion (Brolly *et al.* 1995) summarized previous archaeological research in the subregion, discussed the nature and distribution of known archaeological sites, identified four gaps in the archaeological inventory (i.e. incomplete geographic coverage in the then-existing inventory, poor representation of the range of sites present in the subregion due to a focus on highly-visible site types or areas of high archaeological potential, the limited information on past environments, and the lack of First Nations involvement in the study) and made recommendations for further archaeological research addressing those gaps. Digital maps produced at a 1:250,000 scale showed known site locations and archaeological potential polygons which identified areas of high, moderate, low and unproven archaeological potential. A database linked to the map containing information on sites and polygons was also produced. The boundaries of the Prince George Forest District roughly equate to those of the Prince George LRMP subregion.

In 1997 a pilot study was undertaken for the PGFD which involved an overview of then-proposed forestry operations for the years 1996 to 2006 and had the goal of developing predictive criteria specific to the district (Canuel and Maas 1997). Other objectives included the creation of an updated archaeological site database for the PGFD, as well as the development and testing of a zone-based archaeological predictive model that could be applied at an operational level to determine the need for archaeological studies for proposed forestry developments. Six zones were created, including five drainage areas and the Nechhako Plateau. Areas of high, moderate and low archaeological potential were defined for each zone based on the presence or absence of several environmental features, and recommendations were proposed for three levels of work (AIA, PFR, NFW) where proposed forestry operations conflicted with these areas.

In 1999, the PGFD created its own AOA model (Zacharotas 1999) to facilitate archaeological resource management decisions, although its effectiveness has been considered questionable (Heffner *et al.* 2002: 20) for several reasons described in the following section.

5.4.2.2 Prince George Forest District Archaeological Data Gap Analysis

Heffner *et al.* (2002) presented a summary of the archaeological record within the PGFD as of December 31, 2001 and assessed the state of potential models for the region at the time for Dunkley Lumber Ltd. It was concluded that existing archaeological potential models for the district lacked important variables and needed to address significant gaps in the archaeological database in order to create an accurate, efficient and cost effective predictive model.

The methodology and analysis of this study constituted a significant resource for the creation and maintenance of future models in the PGFD. Analysis of the existing site database illustrated the dominance of subsistence (60%) and cultural material site types (32%) in the PGFD, with all other types accounting for only a small percentage (8%). These results were described as likely a product of survey biases rather than actual archaeological resource distribution, which was highlighted when correlated with biogeoclimatic subzones. As of late 2001, two Sub-boreal Spruce biogeoclimatic subzones, the SBSdw (dry warm) and SBSmk (moist cool), covered only 33% of the PGFD yet 85% of archaeological sites were recorded in these zones.

A review of previous archaeological surveys in the PGFD led to the creation of a large database. This database provided insight into survey results by AIA selection basis, biogeoclimatic subzones and inventory studies.

Analysis of the survey results can highlight variables that most commonly identify archaeological sites. AIAs are mainly selected based on associations with natural and cultural features. No areas were selected for testing based on proximity to archaeological sites, nine areas were selected based on close proximity to a river and 182 areas were selected based on the presence of a secondary named stream. Areas selected based on trails or multiple factors yielded the most positive results (20% and 30% respectively); lakes and secondary named streams had the lowest frequency of positive results (5% and

4% respectively). These associations were described as needing to be more intensively analysed and tested.

The SBSwk (wet cool) zone had the highest potential for cultural heritage resources; however, of all the zones located in the PGFD only three subzones have had enough survey coverage to allow preliminary analysis.

Archaeological inventory studies accounted for 57% of known archaeological sites within the database in 2001. While this data presented a significant contribution, considerable bias was felt to be present as all large inventories in the PGFD were confined to areas known to be of high archaeological potential.

At the time of the data gap analysis, Zacharotas (1999) had been the current AOA which was described in the data gap analysis report as not very applicable to the PGFD, primarily because it was based on concepts and data from other models which had been applied to the PGFD without critical evaluation of their applicability to the region. Furthermore:

- Important variables necessary to predict archaeological site locations were not used or adequately explained;
- It did not incorporate an understanding of traditional forest use by aboriginal peoples;
- It did not address terrain variability or long-term geological changes that have resulted from glacial and postglacial environmental processes;
- It did not incorporate the existing archaeological site database or a database of landscape characteristics that are associated with archaeological sites.

Heffner *et al.* (2002) identified the following significant biases and data gaps present in the PGFD archaeological record:

- General lack of First Nations participation in archaeological studies and completion of traditional use studies in the PGFD;
- Domination of survey types by AIAs which are less effective at identifying archaeological sites than inventories;
- Lack of survey coverage. This can be resolved by targeting archaeological inventories within underrepresented bio-geoclimatic zones;

- Lack of data in survey reporting. Standardized forms incorporating variables important to predictive modeling could resolve this issue;
- Poor archaeological visibility due to high sedimentation rates within the PGFD. This limits the occurrence of surface finds and subsurface finds depending on the maximum depth of testing;
- Bias in the PGFD archaeological record towards certain highly visible site types. As habitation, subsistence and cultural material sites have a more predictable pattern and are easier to find, they then become over-represented in the archaeological record;
- Lack of paleoenvironmental information. Understanding ongoing geomorphological processes will highlight past cultural landscapes and how they affect site distribution across the modern landscape.

The above data gaps were addressed by providing a series of recommendations to facilitate the creation of an accurate, cost effective and efficient model:

- A detailed review of archaeological site records to help predict where archaeological sites are likely to be identified within various environmental settings by compiling variables and testing them with new information;
- Standardized survey reporting. For a predictive model to be cost effective, data must be collected on negative results as much as positive ones. Standardized reporting can insure data on important variables are collected regardless of the identification of archaeological resources;
- Additional survey and research. Research orientated excavations and targeted inventories can provide an efficient means of filling in data gaps within the archaeological record of the PGFD;
- Important predictive variables should be incorporated into any model, regardless of format. Suggested variables include: biogeoclimatic zones, hydrology, elevation, slope, aspect, terrain, trails, previously recorded archaeological site locations, traditional use areas and resource areas.

5.4.2.3 Current Prince George Forest District Predictive Model

The PGFD predictive model (Brulotte and Canuel n.d.) is a deductive model, developed for Canadian Forest Products, Prince George Forest District, in accordance with recommendations of the 2002 data gap analysis of the PGFD (Heffner *et al.* 2002). A deductive model attempts to predict human behaviour and its associations with past

landscapes and environments, and makes the assumption that the natural environment strongly influenced settlement location choices. The model uses the weighted value method and assumes that each landscape variable contributes differently to the decision-making process. To account for this differentiation, each landscape variable is given a different weight to reflect its importance. The scale applied is arbitrary and offers a range of values and weights that is researcher specific. The determinations are based on references to past archaeological research combined with ethnographic and historical information that reflect the environment and its relationship to human occupation of that landscape. The model assumes that very little of the landscape is without archaeological potential.

The current predictive model uses a computer application and is based on a five-point system of nine weighted variable values including sediment, surface material, surface expression, aspect, biogeoclimatic zone, hydrology, drainage, cultural resources and significant land features, to which slope has been added as a modifier. Based on the total values obtained for a given location, its archaeological potential is given as high, medium or low. The model is not designed to predict trails, culturally modified trees, traplines and other historical features. Recommendations for three additional archaeological study options (AIA, PFR and/or NFW) are provided depending on the level of assessed archaeological potential. Further recommendations include:

- Testing of each variable to improve the model's predictive strength
- Periodic updating of the database as archaeological studies are completed
- Completion of an unbiased and statistically sound field inventory
- Encouragement of First Nations to take an active role in the data accumulation process

6. METHODOLOGY

6.1 Study Area

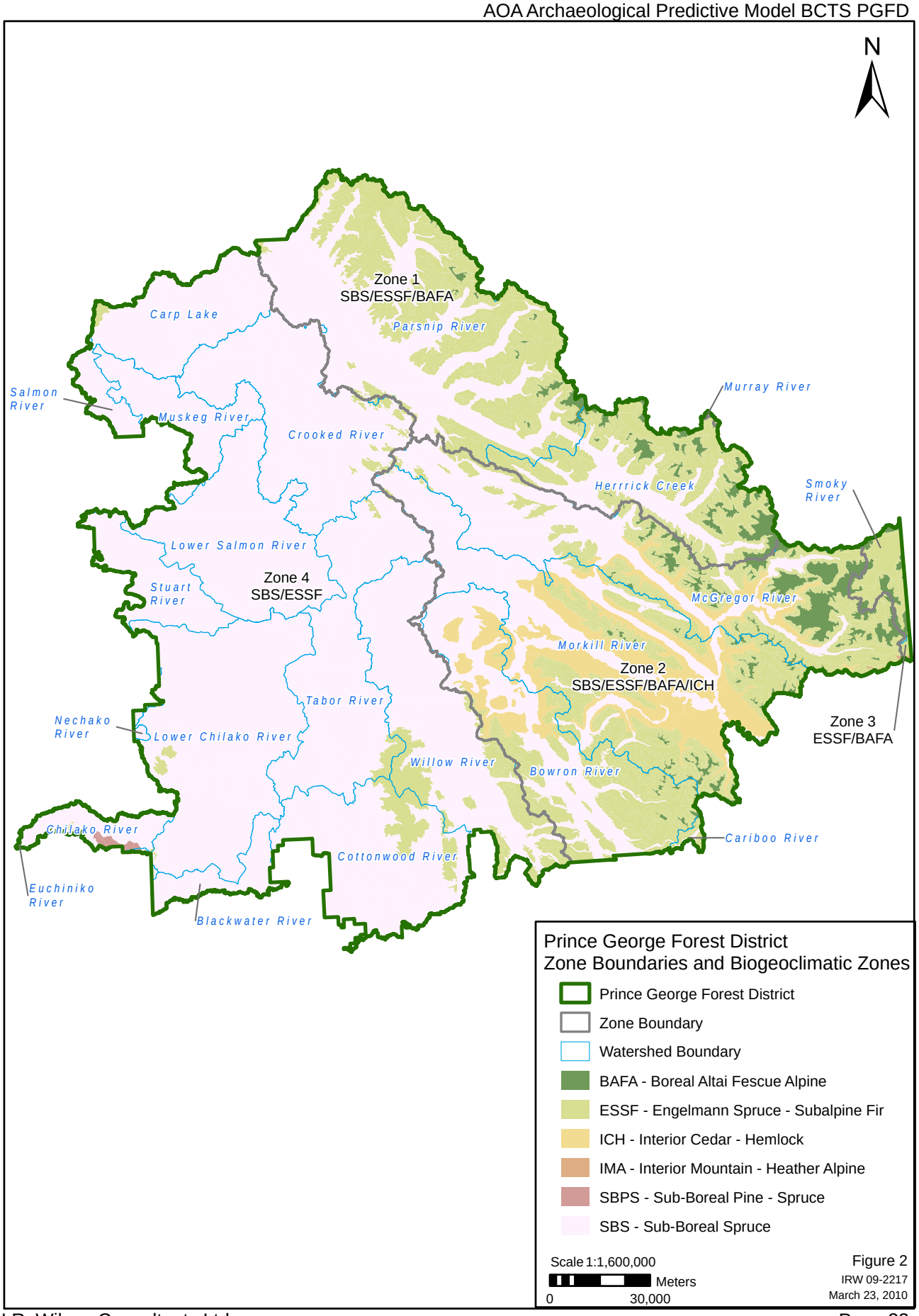
Norcan's 1997 model of the PGFD divided the district into six zones based on the combination of seven factors: location within the district, major geographic features such as lakes and rivers, terrain, elevation, archaeology and presence of useful fish.

Close examination of these overlaid polygons (watershed and BGC zones) revealed the presence of four discrete zones where a specific combination of BGC zones predominates (Figure 2; Table 1).

Table 1: Analytical Zones

ZONE	WATERSHEDS	BGC ZONES
1	Parsnip River Murray River Herrick Creek	SBS/ESSF/BAFA
2	McGregor River Morkill River Bowron River Cariboo River	SBS/ESSF/BAFA/ICH
3	Smoky River	ESSF/BAFA
4	Carp Lake Salmon River Muskeg River Crooked River Lower Salmon River Nechako River Chilako River Lower Chilako River Labor River Willow River Euchiniko River Blackwater River Cottonwood River	SBS/ESSF

In this study, these four discrete zones are considered to constitute a functional region. A functional region is characterized by a steady flow of spatial interaction and is defined by a distance decay effect (Taylor 1975). Therefore, these four zones were used as units of spatial analysis for which separate models of surface-subsurface and CMT potential were produced (Figure 2).


N
Zone 1
SBS/ESSF/BAFA
Carp Lake
Parsnip River
Salmon River
Muskeg River
Crooked River
Murray River
Herrrick Creek
Smoky River
Lower Salmon River
Zone 4
SBS/ESSF
Stuart River
McGregor River
Morkill River
Zone 2
SBS/ESSF/BAFA/ICH
Tabor River
Nechako River
Lower Chilako River
Zone 3
ESSF/BAFA
Willow River
Bowron River
Chilako River
Cariboo River
Cottonwood River
Euchiniko River
Blackwater River
Prince George Forest District
Zone Boundaries and Biogeoclimatic Zones
Prince George Forest District
Zone Boundary
Watershed Boundary
BAFA - Boreal Altai Fescue Alpine
ESSF - Engelmann Spruce - Subalpine Fir
ICH - Interior Cedar - Hemlock
IMA - Interior Mountain - Heather Alpine
SBPS - Sub-Boreal Pine - Spruce
SBS - Sub-Boreal Spruce
Scale 1:1,600,000
Meters
0
30,000
Figure 2
IRW 09-2217
March 23, 2010

Variables entered in the models are classified into four major groups:
1. Cultural Features
2. Water Resources
3. Terrain Features
4. Forest Cover
5. Ecological Features

6.2 Cultural Features

There are 661 sites with Borden numbers within the study area, some containing more than one component. Twenty-eight historic and five legacied sites were excluded and the remaining 628 sites were included in the initial modeling stage (Table 2). The model is not designed to predict post-1846 CMT sites. However, because post-1846 CMT sites likely are in similar areas to pre-1846 CMTs, they were used to identify relevant variables.

Table 2: Archaeological Site Types

SITE COMPONENT	NUMBER	PERCENTAGE
SURFACE/SUBSURFACE	521	83.0
PRE 1846 CMTs	53	8.4
POST 1846 CMTs	47	7.5
TRAILS	24	3.8

Spatial Autocorrelation (SA) was used to explore the viability of including the archaeological sites as a variable. This statistical method measures the correlation of a variable with itself through space. This means that spatial correlation is conceptually as well as empirically, the two dimensional equivalent of redundancy. SA is used to estimate the extent to which the occurrence of an event (in this case an archaeological site) in an areal unit either constrains or makes probable, the occurrence of a similar event in a neighbouring areal unit (Lembo 2007). If a systematic pattern is observed in the spatial distribution of a variable, then it is said that this is spatially autocorrelated. These patterns can be positive when the results show that neighbouring areas are more alike. A negative autocorrelation describes patterns in which neighbouring areas are not unlike, while random patterns will exhibit no spatial autocorrelation.

A SA routine using the Moran's I spatial autocorrelation tool in ArcView Spatial Statistics toolbox was run on the CMT and Surface/Subsurface (SS) sites within the study

area. Initially, the routine was run on all SS sites across the study area. The results revealed a random distribution at this level (Figure 3).

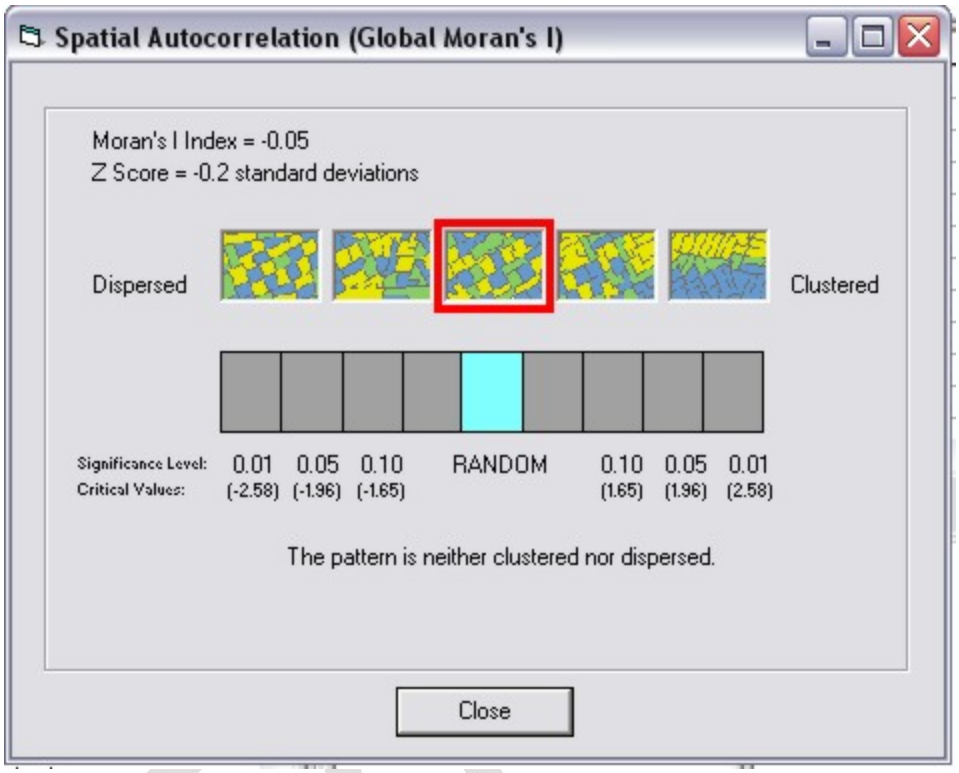


Figure 3

Another SA routine was run but this time considering site distribution within analytical zones 1-4. A high spatial autocorrelation in SS sites was found within Zone 4(Figure 4). Zones 1-3 contain very few sites.

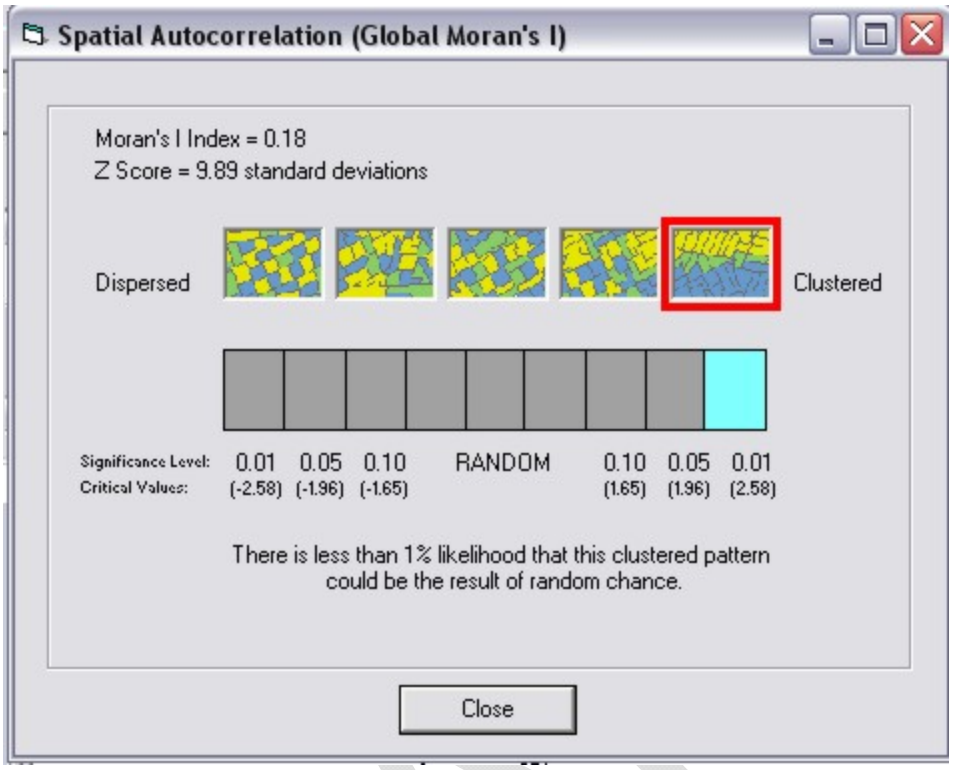


Figure 4

All CMT sites fall within the SBS BGC zone and therefore a similar routine was run on the CMTs within this zone. This initial routine revealed a random pattern, but when run against subzones, a moderately clustered pattern was observed within the SBSdw subzone (Figure 5). This is a reflection of the difficulty of modeling for CMTs when the sample size (51 pre-1846 CMTs) is so disproportionate to study area size (3,696,704 ha).

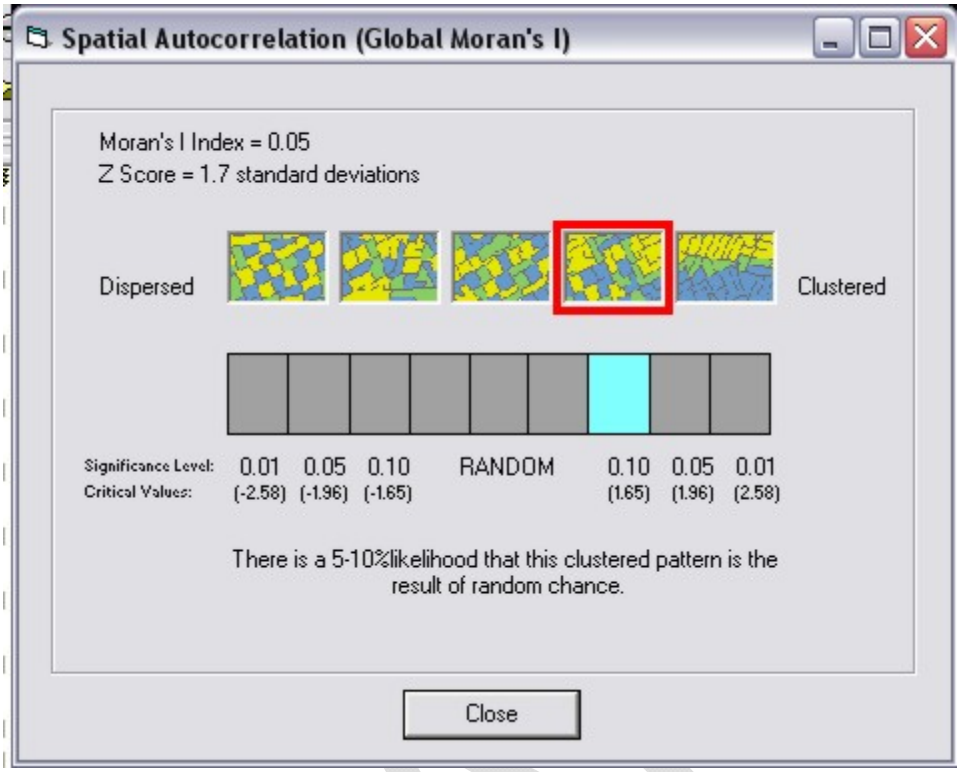


Figure 5

The results show a clustered pattern with less than 5-10% likelihood that this pattern is the result of random chance. This exploratory analysis clearly demonstrates that, like any other spatial variable, the inclusion of archaeological sites as a relevant variable in the Archaeological Potential Model is methodologically and theoretically warranted.

Surface/Subsurface sites were assigned their potential scores and buffers in accordance to their type (trails, cultural depressions, lithic scatters, and isolated finds). CMTs were also assigned specific potential scores and buffers (Table 3).

Table 3: Variable weight by distance from sites

BUFFER	TRL	CD	LS	IF	CMT
0-50 m	20	20	12	8	20
51-100 m	18	18			18
101-150 m	16	16			16
151-200 m	14				

6.3 Water Resources

It is assumed that past indigenous peoples would have a strong reliance on water bodies for transportation and sustenance. Water bodies were therefore classified according to their usefulness for transportation, their fish-bearing capabilities and proximity to SS and CMT sites. Wetlands were included due to their high biodiversity potential. Buffer zones of <=50 m around water bodies were established for CMT sites (Table 4) Buffer zones ranging from 0 to 500 m around the main water bodies were established for SS sites (Table 5). These buffer distances were filtered for slope greater than 5^{o}. Double-line rivers (TRIM) were assigned the greatest buffer (500 m). Lakes greater than 5 ha in area were assigned a buffer up to 250 m, and lakes less than 5 ha were buffered to 100 m, except when these were adjacent to wetlands >=5 ha, when they were given the same scores and buffers as lakes >=5 ha. Wetlands were buffered to 100 m and single-line fish-bearing creeks (TRIM) were also allocated a buffer of 100 m. The final score for these variables was calculated according to the extent of the buffer width and the percentage scale factor, which represents a ratio that decreases mathematically as distance increases (Table 6).

Table 4: CMT frequency/distance to water bodies

Feature	Distance	TOT_CMT	CMT_F	CMT_%
Rivers_Dbl	<=50m	93	6	6.4
Streams	<=50m	93	37	40
Lakes	<=50m	93	13	14
Wetlands	<=50m	93	10	11

Table 5: SS frequency/distance to water bodies

Feature	TOT_SS	<=50m	%	<=100	%	<=250	%	<=500	%	TOTAL_S	%TOT
Rivers_Dbl	524	54	10.3	22	4.1	57	10.8	44	8.4	177	33.7
Streams	524	113	21.6	68	13					181	34.5
Lakes >= 5 ha	524	167	32	34	6.5	43	8.2			244	46.6
Lakes <=5 ha	524	19	3.6	14	2.6					331	6.3
Wetlands	524	66	12.6	30	5.7					96	18.3

Table 6: Water bodies potential

			WEIGHTED VALUE			
Feature	VALUE	WEIGHT	50 m_POT (100%)	100 m_POT (90%)	250 m_POT (80%)	500 m_POT (70%)
Rivers_Dbl	4	5	20	18	16	14
Streams	4	5	20	18		
Lakes >= 5 ha	4	5	20	18	16	
Lakes <=5 ha*	3	5	15	13		
Wetlands	3	5	15	13		

*Lakes <=5 ha, adjacent to wetland >=5 ha also in this category

Finally fish bearing water bodies were identified and divided in three classes according to type of fish (salmon, sport and other, according to the FISS classification), and potential scores assigned (Table 7).

Table 7: Fish bearing water bodies potential

CLASS	BUFFER	VALUE	WEIGHT	SCORE
Salmon	100m	5	5	25
Sport	100m	4	5	20
Other	100m	3	5	15

6.4 Terrain Features

Field observations reveal that there is a strong correlation between areas of high archaeological potential and well-drained soils. Likewise, certain soils are favorable for the preservation of archaeological materials. The subsistence patterns of the peoples who inhabited the study area required them to lead a transhumant lifestyle. That is, people moved from season to season to exploit resources as they became available at different times of the year. It is reasonable to assume that they would prefer to traverse the landscape over landforms that would ease their passage and establish camps on locations with gentle slope sheltered from the elements. In this context, modeling for favorable attributes in slope, aspect, elevation, surface expression and surficial geology was essential to assess potential for any given location.

There is a strong positive correlation between micro-landforms and archaeological sites. An algorithm to identify micro-landforms was applied to identify these. Micro-landforms that fell within wetlands were assigned a greater value because of their ability to facilitate movement across the swampy terrain, and thus increased archaeological potential.

Pictographs was modeled through the co-occurrence of rock outcrops, slope and water courses. On the other hand, CMT occurrence is not strongly influenced by slope and aspect. Therefore, micro-landforms and surface expressions were excluded as variables from CMT modeling. The weights and values contributed by terrain features (slope, aspect, elevation, surficial geology and surface expression) is presented in Table 8.

Table 8: Weights and values by terrain feature

TERRAIN FEATURES POTENTIAL			
Description	Value	Weight	Weighted Value
SLOPE SS			
0-3°	5	4	20
3.1-6°	4	4	16
6.1-9°	3	4	12
9.1-45°	1	4	4
>45°	0	4	0
SLOPE CMTS			
0-7°	5	4	20
7-18°	4	4	16
18-26°	3	4	12
>26°	0	4	0
ASPECT (not relevant to CMTs)			
N 337.6°-22.5°	1	4	4
NE 22.6°-67.5°	2	4	8
E 67.6°-112.5°	3	4	12
SE 112.6°-157.5°	4	4	16
S 157.6°-202.5°	5	4	20
SW 202.6°-247.5°	4	4	16
W 247.6°-292.5°	3	4	12
NW 292.6V-337.5°	2	4	8
Flat	5	4	20
ELEVATION			
492-830 m	4	3	12
831-1300 m	3	3	9
>1300 m	1	3	3
SURFICIAL GEOLOGY (SS only)			
Fluvial	5	2	10
Glacial Lacustrine	5	2	10
Colluvium	2	2	4
Morrainal	2	2	4
Lacustrine	1	2	2

Table 8 cont.

SURFACE EXPRESSION (SS only)			
Plain	5	3	15
Terrace	5	3	15
Hummocky	4	3	12
Rolling	4	3	12
Undulating	4	3	12
Bedrock (petroglyphs/petrographs)	3	3	9
Microlandforms	3	5	15
Microlandforms on Wetlands	5	5	25

6.5 Forest cover

Variation in forest cover can be used as a rough guide to identify well-drained soils. Likewise, since each different tree stand is associated with a specific plant community, it can be used to estimate the abundance of plant and faunal resources of importance to Native peoples. Although nearly all of the tree species present in the study area have been recorded as having been utilized in some way by Native peoples, greater weighted value was assigned to lodgepole pine and whitebark pine (Table 9). Final scores for tree species potential were obtained by computing the ratio between weighted value and percentage of species composition. Likewise, even though it is difficult to model for CMTs, field observations and statistical analysis indicated that the presence of mature forests older than 150 years substantially increased the likelihood of CMT presence. Thus these variables were assigned a greater weight in order to increase the predictability in the CMT model (Table 10).

Table 9: Values, weights and scores of specific tree species used modeling CMTs and SS sites

SS and CMT APM*						
CODE	SPECIES	SS/CMT VALUE	SS WEIGHT	SS SCORE	CMT WEIGHT	CMT SCORE
AC	Balsam popler	3	2	6	3	9
ACB	Balsam popler	3	2	6	3	9
ACT	Black cottonwood	3	2	6	3	9
AT	Tremblin aspen	1	2	2	3	3
B	Fir	3	2	6	3	9
BA	Amabilis fir	2	2	4	3	6
BL	Subalpine fir	3	2	6	3	9
BM	Shasta red fir	1	2	2	3	3

Table 9 cont.

CW	Western cedar	1	2	2	3	3
DR	Red alder	1	2	2	3	3
E	Birch	2	2	4	3	6
EA	Alaska paper birch	2	2	4	3	6
EP	Paper birch	2	2	4	3	6
FD	Douglas fir	3	2	6	3	9
FDI	Rocky Mountain Douglas fir	4	2	8	3	12
H	Hemlock	1	2	2	3	3
HM	Mountain hemlock	1	2	2	3	3
HW	Western hemlock	1	2	2	3	3
L	Larch	1	2	2	3	3
LA	Subalpine larch	1	2	2	3	3
LT	Tamarack	1	2	2	3	3
LW	Western larch	0	2	0	3	0
P	Pine	4	2	8	3	12
PA	Whitebark pine	5	2	10	3	15
PJ	Jack pine	2	2	4	3	6
PL/PLI	Lodgepole pine	5	2	10	3	15
PM	Monterey pine	2	2	4	3	6
PW	Western white pine	2	2	4	3	6
QG	Garry oak	2	2	4	3	6
S	Spruce	2	2	4	3	6
SB	Black spruce	1	2	2	3	3
SE	Engelman spruce	2	2	4	3	6
SS	Sitka spruce	2	2	4	3	6
SW	White spruce	4	2	8	3	12
SX	Spruce hybrid	1	2	2	3	3
SXW	Hybrid white spruce	1	2	2	3	3
T	Yew	1	2	2	3	3
TW	Western yew	2	2	4	3	6
WP	*Salix lucida*	1	2	2	3	3
WS	Scouler's willow	1	2	2	3	3

*APM = Archaeological Potential Model

Table 10: Forest age ≥ 150

MODEL	VALUE	WEIGHT	WEIGHTED VALUE
SS	5	2	10
CMT	5	3	15

6.6 Ecological features

The transition between one BGC zone and another, as well as between sub-zones (ecotone), represents bio-diverse locations that would have been prime resource spots for human groups. Thus, these were buffered up to 250 m. Through a series of "Near-to" and "Select by location" analysis it became apparent that all CMTs (Table 11) and most archaeological sites fell within the Sub Boreal Spruce (SBS) BGC zone (Table 12). The site distribution may be skewed to this zone due to the intensity of archaeological research carried out in this area, as noted by other authors, hence potential values were assigned to all BGC zones within the study area (Table 13 and 14).

Table 11: CMTs in SBS subzones

SBS_sub zone	# CMT	CMT %	SA Pattern	pre-1846 (N 51)	pre-1846 %
dw	103	47	clustered	8	15.7
mc	1	0.45	N/A	1	2.0
mk	78	35	random	27	52.9
mw	2	0.9	N/A	0	N/A
vk	1	0.45	N/A	1	2.0
wk	35	17.5	clustered	14	27.5
TOTAL	220			51	

Table 12: SS sites by BGC zone and subzone

Zone	Subzone	# Sites	% Sites
SBS	dw	276	50.4
SBS	mh	20	3.7
SBS	mk	193	35.3
SBS	mw	13	2.4
SBS	vk	12	2.2
SBS	wk	27	4.9
SBPS	dc	5	0.9
ESSF	wk	1	0.2
	TOTAL	547	100

Table 13: SS Potential scores by BGC zone

BGC ZONE POTENTIAL			
ZONE	VALUE	WEIGHT	WEIGHTED VALUE
BAFA	2	5	10
ESSF	3	5	15
ICH	2	5	10
IMA	2	5	10
SBPS	3	5	15
SBS	4	5	20

Table 14: CMT weighted value by BGC zone and subzone

BGC SUBZONE POTENTIAL				
ZONE	SUBZONE	VALUE	WEIGHT	WEIGHTED VALUE
SBS	dw	5	5	25
SBS	mc	1	5	5
SBS	mk	4	5	20
SBS	mw	1	5	5
SBS	vk	1	5	5
SBS	wk	3	5	15
SBPS	dc	2	5	10
ESSF	wk	1	5	5

6.7 The working model

The various weighted values were combined through additive operations using the Arc View module Raster Calculator, thus obtaining a raw-score model for CMT and SS sites.

6.7.1 Classification method

The raw-score models were divided into seven and nine classes following the Fisher-Jenk's Natural Breaks classification algorithm, and High and Low potential break points were defined according to value distribution along the image histogram (Figure 6).

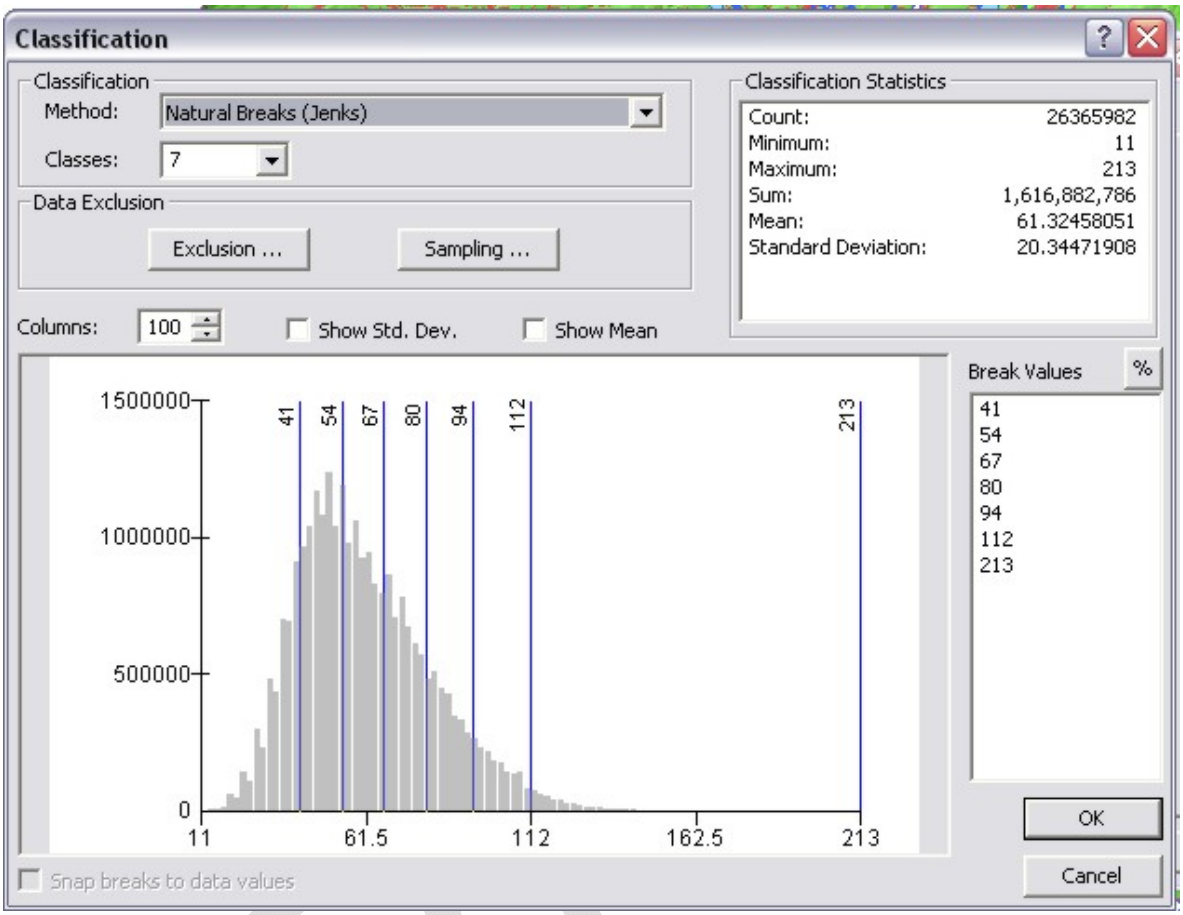


Figure 6

The Fisher-Jenk's algorithm (Fisher 1958; Jenks 1977) determines the best arrangement of values into classes by comparing sums of the squared difference between observed values within each class and class means. This is a form of variance-minimization classification. It is based on the assumption that the most suitable classification scheme is the one which minimizes the differences between the observed data values and the average of the data values. These classification methods are called optimization methods. The creation of optimal classes are based on a statistical criterion, in this case a goodness of variance fit factor (GVF), which is calculated as follows:

$$GVF = SDAM - SDCM / SDAM$$

Where:

SDAM is the squared deviations from the array mean

SDCM is the squared deviations from the class mean

This method has proven to be one of the best classification methods wherein the sum of the variance within each of the classes is minimized determining class boundaries (in this case potential and no potential) in an optimal manner.

7. MODEL PERFORMANCE

The Archaeology Branch requires that all GIS based archaeological potential models capture 70% or more of the known archaeological sites in 10% of the land base, for high efficiency models or 70% or more of known archaeological sites in 10-20% of the land base (Archaeological Overview Assessments as General Land Use Planning Tools – Provincial Standards and Guidelines July 2009). It is also a requirement that both a CMT model (for pre 1846 CMT sites only) and an archaeological site model be created.

Model efficiency is calculated by using the Kvamme's Gain Statistic (Gain is calculated as 1 – [%area/%known sites]). Where a site is considered captured by the model if any portion intersects a potential area. This statistic gives an estimate of how the model improves predictability over chance or a random find. A perfect model would approach 1. The Archaeology Branch classifies high efficiency models as having a Kvamme's Gain Statistic of 0.90 or greater while a moderately efficient model would be between 0.80 and 0.90.

The PGFD covers 33,967,039,821 m^2. The district was divided into four zones based on a combination of watershed boundaries and biogeoclimatic zones.

CMT sites and those with CMT components were compared to the CMT model to determine model efficiency. The Heritage Conservation Act protects only pre 1846 CMT sites and so the model is designed to predict where pre 1846 CMT sites might be located. However, given similar use of tree species through time by First Nations, post 1846 sites are thought to be useful as predictors of pre 1846 CMT sites. It should be noted that approximately 10 years ago post 1846 CMT sites were no longer assigned Borden numbers so these were not used to determine model efficiency.

Given the low number of pre-1846 CMT sites (51 in total) the Archaeology Branch has waived the requirement for calculating the Gain Statistic for this model (pers com. Doug Glaum 2010)

Archaeological sites include lithic scatters, isolated finds, cache pits, cultural depressions, human burials, trails, house pits, cairns and mounds. Model efficiency for archaeological sites has been determined for each of the zones and for the entire forest district.

Not included in this analysis are historic sites (buildings, forts, trails) unless they were noted on the site form as having prehistoric site components.

Legacied sites have been removed from the study and are not used to calculate model efficiency.

Zone 1 is 6,799,784,772 m^2 and represents 20.0% of the PGFD. It contains 37 sites with Borden numbers. These include one pre 1846 CMT site, four post 1846 CMT sites, nine historic sites and 23 archaeological sites. The post 1846 CMT sites and the historic sites were excluded from the efficiency calculations.

The CMT model captured the single pre 1846 CMT site or 100% of all known pre 1846 CMT sites in the zone. Within this zone, 623,224, 375m^2 or 9.2% of the area is modeled as having CMT potential. The Kvamme's Gain Statistic is (1 – [9.2/100] = 0.91).

The archaeological model captured 17 of 23 archaeological sites or 73.9% of all known archaeological sites in the zone. Within this zone, 291,730,000 m^2 or 4.3% of the area is modeled as having archaeological potential. The Kvamme's Gain Statistic is (1 – [4.3/73.9] = 0.94).

Zone 2 is 10,225,794,195 m^2 and represents 30.1% of the PGFD. It contains five sites with Borden numbers. These include one pre 1846 CMT, one legacied and three archaeological sites. The legacied site is not included in the efficiency calculation.

The CMT model did not capture the single pre 1846 site. With this zone, 278,318,125 m^2 or 2.7% of the zone has been modeled as potential for CMT sites. The Kvamme's Gain Statistic can not be calculated.

The archaeological model captured one of three other archaeological sites or 33.3% of the known archaeological sites in the zone. Within the zone, 278,318,125 m^2 or 5.7% of the area has been modeled as having potential for archaeological sites. The Kvamme's Gain Statistic is (1 – [2.7/33.3] =0.92).

Zone 3 is 340,967,217 m^2 and represents 1.0% of the PGFD. There are no sites within this zone so model efficiency cannot be calculated. Within the zone, 40,654,375 m^2 or

11.9% is modeled as having CMT potential and 24,133,125 m^2 or 7.1% is modeled as having archaeological potential.

Zone 4 is 16,600,493,637 m^2 and represents 48.9% of the PGFD. It is the largest zone in the study area and contains significantly more sites than the other three zones. Zone 4 has 619 sites with Borden numbers of which 593 are covered by the model. Site types can be broken down into the following: 79 (77 modeled) sites are CMT sites with 48 being pre 1846 and 31 (29 modeled) post 1846; five sites are CMT sites associated with trails with one having both pre 1846 CMT and prehistoric trail components, two having post 1846 CMT and prehistoric trail components, and two having post 1846 CMT and historic trail components; 19 (17 modeled) sites are historic, two of which are protected under the *Heritage Conservation Act* and one is noted as being a post 1846 trail; four sites are legacied; 484 (466 modeled) sites are archaeological; seven (six modeled) sites have other archaeological and CMT components, two of which have pre 1846 CMT components and five (four modeled) have post 1846 CMT components; one site has archaeological, post 1846 CMT and historic components; two (one modeled) sites have other archaeological, post 1846 CMT and trail components with one being a pre 1846 trail and the other (not modeled) being a post 1846 trail; four (three modeled) sites have other archaeological and historic components with one historic component noted as a grave; and 13 sites are pre 1846 trails.

In summary there are 94 sites with CMT components. 51 are pre 1846 sites while 43 are post 1846 sites. There are 515 sites with archaeological components, 493 are covered by the model.

The CMT model captured 40 of 51 pre 1846 CMT sites or 78.4% of known pre 1846 CMT sites. Within the zone, 2,259,131,250 m^2 or 13.6% of the area is modeled as having CMT potential. The Kvamme's Gain Statistic is (1 – [13.6/78.4] = 0.83).

The archaeological model captures 306 of 515 (493 modeled) known sites or 59.4%. This is equivalent to 62.1% of the sites covered by the model. Within the zone, 1,695,951,350 m^2 or 10.2% of the area is modeled as having archaeological potential. The Kvamme's Gain Statistic is (1 – [7.3/77.3] = 0.91).

Overall Performance

In summary, there are 100 CMT sites, 53 sites with a pre 1846 CMT component and 47 with a post 1846 CMT component. Of the pre 1846 CMT sites, 41 or 77.3% are captured by the model. Within the entire PGFD, 3,201,328,125 m^2 or 7.3% is modeled as having potential. The Kvamme's Gain Statistic is (1 – [7.3/77.3] = 0.91)

This makes the CMT potential model a highly efficient model.

There are 541 sites with prehistoric archaeological components and 519 of these were covered by the model. Of these, 324 sites or 59.9% of known sites in the PGFD or 62.4% of the modeled sites were captured by the model. Within the entire forest district, 2,487,587,600 m^2 or 9.4% is modeled as having archaeological potential. The Kvamme's Gain Statistic is (1 – [9.4/62.4] = 0.85)

This makes the archaeological potential model a moderately efficient model.

A more detailed discussion and assessment of model performance will be provided in the final report when Phase III (field testing) and Phase IV (model verification) is complete.

8. RECOMMENDATIONS

Completion of Phase III (field testing) and Phase IV (model verification) is recommended so model assumptions and data gaps can be addressed. A model which captures more sites in a smaller portion of the PGFD will be the goal of these project phases.

In addition to these subsequent project phases, a detailed site reconciliation project should be considered. Archaeological sites recorded in the 1970s, 1980s and 1990s should be verified for locational accuracy to ensure that the site database accurately reflects site locations. Site reconciliation would also ensure that standard site buffers are applied to isolated finds and pre-1846 CMT sites with only one feature. Site buffers are not consistent in the exitsing database.

Consultation with the appropriate First Nations communities is also recommended and traditional use site information incorporated as necessary.

Given the small sample of pre-1846 CMT sites, expansions of the model into adjacent districts should be considered to increase the pre-1846 CMT sample so the efficency of this model can be tested more thoroughly.

The use of LiDAR is likey not practical for such a large study area but the use of LiDAR should be considered if this data bcomes available in the future.

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Appendix A

Heritage Permits issued for the Prince George Forest District

Permit Number	Permit Type	Permittee/ Company	Forestry Permit?	Summary of Work
2009-129	Inspection	Ecofor	No	AIA for subdivision in College Heights area, PG. FlRq 20, subsurface lithic scatter identified.
2009-138	Inspection	Ecofor	Yes	AIA of 13 cutblocks. 1 trail site, 2 CMT sites and 32 post 1846 sites identified.
2007-087	Inspection	Norcan	Yes	PFR of 104 cutblocks throughout the PGFD, 22 of which had AIAs done. 2 archaeological sites and 17 TUS sites identified.
2007-190	Investigation	Farid Rahemtulla	No	Field school on sites identified under HIP 2004-070 and 2002-224.
2007-339	Inspection	Ecofor	No	AIA of residential development, PG. 5 sites identified (cache pit and lithic scatters).
2006-237	Inspection	Ecofor	No	AIA of areas around Carp Lake. 13 sites identified. 1 trail, 11 cultural depressions and 1 site with cultural depression/lithic/cairn. Additional 13 post-1846 sites identified.
2006-252	Inspection	Arcas	No	AIA of pipeline from Kitimat to just east of PG. No arch sites identified in PGFD.
2006-416	Investigation	Archer	No	Systematic data recovery of FlRq 13 in PG. AIA conducted under HIP 2006-209.
2005-052	Inspection	Norcan	Yes	43 AIAs completed, 16 arch sites identified and 1 revisited (12 lithic, 1 CD, 4 pre-1846 CMT sites). 20 post-1846 sites (2 trail, 18 CMT) also recorded.
2005-174	Inspection	Traces	Yes	5 AIAs completed, 2 sites found in PGFD: 1 arch (CD) site, 1 large post-1846 CMT site.
2005-188	Inspection	Big Pine	No	7 PFRs completed for BC Hydro in FSJFD & PGFD, 7 post-1846 CMT sites identified.
2005-195	Inspection	Ecofor	Yes	One CANFOR blk assessed, 1 post-1846 CMT site identified.
2005-276	Inspection	Norcan	Yes	3 AIAs in the PG Business Area completed, no sites identified.
2005-364	Inspection	Norcan	Yes	31 AIAs completed,12 arch sites found (8 lithics, 1 CMT, 2 trails, 1 lithic/CD site), plus 20 post-1846 CMT sites.
2005-382	Investigation	Norcan	No	Study initiated after human remains found at Ft George Park, one individual recovered plus ~60 historic artifacts. Site is historic cemetery.
2004-033	Inspection	Norcan	Yes	47 AIAs completed, 11 arch sites found (9 lithics, 1 trail, 1 CMT) plus 42 post-1846 sites (36 CMT, 6 trails)
2004-070	Inspection	Traces	Yes	One AIA completed with 5 arch sites (3 lithic, 1 CD, 1 CD/lithic) and a post-1846 trail identified. Post-1846 CMTs at 3 of these sites.
2004-201	Inspection	Norcan	No	PFR of 7 MoT development areas, 5 of which had AIAs done. Lithic site FlRv 27 identified. 1 post-1846 CMT identified.
2004-208	Inspection	Norcan	No	AIA Salmon R P/L crossing. No sites found.
2004-351	Inspection	Landsong	No	AIA Duke Energy Gas Transmission, Salmon River Revetment Project. No arch sites identified.
2003-023	Inspection	Norcan	Yes	56 AIAs completed, 14 arch sites found (5 CMT, 6 lithic, 1 CD, 2 CD/lithic), plus 73 post-1846 sites (65 CMT, 8 trails)
2003-217	Inspection	Heritage North	No	AIA of 3 gravel pits, PG. No arch sites identified.
2003-246	Inspection	Traces	Yes	10 BCTS blocks assessed, 10 protected sites found (6 lithic, 3 CMT, 1 CD), plus 12 post-1846 sites (10 CMT, 1 cabin, 1 poss. trail).
2003-253	Inspection	Norcan	No	AIA of Hansard Bridge crossing and ancillaries. No arch sites identified.
2003-276	Inspection	Big Pine	No	AIA of various BC Hydro projects throughout NE BC. No arch sites identified.
2002-050	Inspection	Norcan	Yes	65 AIAs completed, 19 arch sites found (10 CMT, 6 lithcs, 1 CD, 1 trail, 1 mixed type) plus 40 post-1846 sites (36 CMT, 1 trail).
2002-174	Inspection	Arcas	No	AIA for Westcoast Energy for the McLeod Lake & Summit Lake loops identified part of the protected Giscome Portage Trail, plus 18 post-1846 sites (7 CMT, 11 historic).

Permit Number	Permit Type	Permittee/ Company	Forestry Permit?	Summary of Work
2002-224	Inspection	Norcan	Yes	9 MoF developments assessed, 19 arch sites found (9 lithic, 10 CD) plus 5 post-1846 CMT clusters. Part of PGT Railway's Chilako Stn also identified.
2002-349	Inspection	Golder	No	AIA of Fishtrap Island collector well, PG. No arch sites identified.
2001-104	Inspection	Norcan	Yes	17 AIAs & 57 PFRs completed, 7 arch sites found (3 CMT, 2 lithics, 2 CD) plus 49 post-1846 sites (48 CMT, 1 trail).
2001-142	Inspection	Arcas	Yes	18 Weldwood blks assessed, 9 arch sites found (8 lithic, 1 CD/lithic). Several post-1846 CMT sites also identified.
2001-154	Inspection	Norcan	Yes	One AIA & 4 PFRs completed for Dunkley Lumber. No sites identified.
2001-195	Inspection	Ecofor	Yes	73 AIAs completed for CANFOR in the PGFD & the FSJFD, 1 CD site & 13 post-1846 CMT sites found near Carp Lk., PGFD.
2001-228	Inspection	IR Wilson	No	AIA for a BCBC property on the Nechako River in PG. No arch remains identified.
2001-257	Inspection	Big Pine	Yes	7 AIAs completed for MoF. One CD/lithic site and 7 post-1846 CMT sites identified.
2000-044	Inspection	Norcan	Yes	28 AIAs completed for 6 licencees in the PGFD. 7 arch sites found (5 lithic, 2 CMT), plus 21 post-1846 CMT sites.
2000-107	Inspection	R. Gilbert	Yes	AIAs in 6 cut blocks for MoF and 1 licensee. No arch sites identified.
2000-339	Inspection	Norcan	Yes	Arch inventory along the 68 km portion of the AMHT in the PGFD. 9 new arch sites identified (7 lithic, 2 CD) & 8 post-1846 CMT sites
1999-043	Inspection	Norcan	Yes	107 AIAs for several forestry proponents found 4 arch sites (3 trail, 1 CD) and 21 post-1846 CMT sites
1999-201	Inspection	R. Gilbert	Yes	An arch inventory within asserted Lheidli T'enneh territory at 25 BCFS recreation sites identified 11 arch sites (10 lithic, 1 CMT). An AIA of the John Hart Bridge expansion found no sites. An inventory for the Goat River Trail found no sites but several areas of potential.
1999-211	Inspection	R. Gilbert	Yes	AIAs for 3 woodlots conducted for PGFD and one licensee identified 4 arch sites (all CDs and/or trails).
1999-376	Inspection	Arcas	Yes	AIAs in 26 Weldwood blocks identified 4 arch sites (3 CMT, 1 Carrier Pack Trail section); PFRs conducted in adjacent areas ID'd another 21 sites (lithics, CMTs), 11 associated with the Escarpment Trail along the Blackwater River.
1998-074	Inspection	Norcan	Yes	95 assessments for 7 forestry licensees found 10 new arch sites (8 lithic, 2 CD), plus 4 post-1846 CMT sites.
1998-147	Inspection	R. Gilbert	Yes	An arch inventory of several BCFS recreation sites found 4 lithic sites, one with a diagnostic point possibly dating to the Late Middle Period (ca 3,500 BP) of the Interior Plateau.
1998-191	Inspection	Antiquus	Yes	AIAs for 5 Weldwood blocks identified 2 post-1846 sites (1 trail, 1 large CMT site).
1998-218	Inspection	R. Gilbert	No	An AIA for a proposed expansion of the Fraser-Fort George Regional Museum was negative for any archaeological deposits.
1998-309	Inspection	Millennia	Yes	AIAs of 21 blocks for MoF & Dunkley Lumber found 3 arch sites (1 CMT, 2 CD) & 1 post-1846 CMT site
1997-047	Inspection	Norcan	Yes	AIAs for 2 PGFD licensees of 22 blocks & roads yielded one CD site and five clusters of post-1846 CMTs, two along a post-1846 trail.
1997-106	Inspection	Norcan	Yes	AIAs for 2 PGFD licensees in 6 CPs found post-1846 CMTs and a short trail section. No protected sites were identified.
1997-125	Inspection	Norcan	No	An AIA for proposed property development on Davie Lake yielded a single IF site.
1997-195	Inspection	Norcan	Yes	AIAs for 6 proponents in the PGFD & VFD yielded 4 new pre-1846 sites (1 CMT, 3 CD), all within the PGFD.
1997-244	Inspection	Arcas	No	An arch inventory for the Lhtako Dene Band yielded 28 new sites, only two (1 lithic, 1 CD/ lithic) in the PGFD (Ahbau Lake).

Permit Number	Permit Type	Permittee/ Company	Forestry Permit?	Summary of Work
1997-253	Inspection	Traces	Yes	AIAs in 2 MoF blocks yielded 8 sites (1 LS, 1 pre-1846 trail section, 6 post-1846 CMT)
1996-028	Inspection	Norcan	Yes	Several AIAs completed for Rustad Bros. were negative for archaeological remains.
1996-215	Inspection	IR Wilson	Yes	AIAs for 5 proposed Canfor haul roads in the north McLeod Lake area were negative for archaeological remains.
1995-067	Inspection	Antiquus	Yes	AIAs in 4 Weldwood blocks found 2 pre-1846 sites, an IF and a pack trail section.
1995-194	Inspection	R. Gilbert	No	An AIA for a proposed UNBC research park on Cranbrook Hill was negative for archaeological remains.
1995-225	Inspection	IR Wilson	Yes	AIAs for 7 proposed Canfor developments at the north edge of the PGFD were negative for archaeological remains.
1995-254	Inspection	R. Gilbert	No	Arch inventories for 2 PG MELP lots proposed for sale yielded no arch remains.
1993-120	Inspection	IR Wilson	No	AIAs for 3 PNG P/L loops, including a section in the Summit Lake area, were negative for archaeological resources.
1993-131	Inspection	IR Wilson	No	AIAs for 4 Westcoast Energy P/L loops, including 2 in the PGFD (McLeod Lk, Hixon), yielded only one IF site, but outside the PGFD.
1992-019	Inspection	IR Wilson	No	AIAs for 10 Westcoast Energy P/L loops, including one near Hixon, yielded no sites in the PGFD.
1992-042	Inspection	R. Gilbert	No	An AIA for a proposed campground/marina on the e. side of Mcleod Lk identified site GfRr 2. Nine 1 x 1 m EUs were placed within site boundaries.
1992-057	Inspection	Points West	No	AIAs for 13 MoTH projects in 4 highways districts found 8 new sites, but none in the PGFD (Fort George Hwys District).
1990-056	Inspection	Heritage North	No	An AIA for the proposed expansion of two Canfor mills in PG was negative for any arch remains.
1990-093	Inspection	M.Rousseau	No	AN AIA for the proposed Mt Milligan mine site, access road & T/L RoW in the northern part of the PGFD was negative for the presence of any arch resources.
1989-039	Inspection	Points West	No	Two AIAs were conducted for MoTh bridge relocation projects, one across the Blackwater R in the PGFD. One lithic site was ID'd at the BR crossing away from any conflict.
1989-083	Inspection	Arcas	No	26 sites prev. recorded for a proposed 330 km-long P/L from PG south to Kelly Lake were assessed for significance and degree of conflict. 5 of these sites are in the PGFD.
1986-011	Inspection	IR Wilson	No	An arch inventory along AMHT west from the PGFD, identified 18 new sites, 11 of them in the PGFD. Several previously recorded sites were revisited.
1986-029	Inspection	D. Burley	No	Test excavations at Fort McLeod (GfRs 2) yielded 198 artifacts, almost all historic, indicating occupation from 1823 to 1952 during its HBC period.
1985-025	Inspection	IR Wilson	No	AIAs for 5 PNG P/L loops, including a section west of Summit Lake, were negative for archaeological resources in the PGFD.
1985-027	Inspection	IR Wilson	No	An AIA for MoTH for a proposed bridge crossing of the Fraser R in PG was negative for any arch remains.
1984-021	Inspection	M. Cranny	No	A survey in the Cluculz Lake area identified 32 new sites, incl. 2 (both CD) in the PGFD
1982-030	Inspection	Aresco	No	An AIA for the Williston-Telkwa T/L identified 1 new site (IF) and re-assessed one other, both in the PGFD
1981-023 (M.O.)	Inspection	B. Apland	No	AIA for BC Rail in the Anzac & Parsnip rivers area. 1 IF site ID'd outside the PGFD.
1981-025 (M.O.)	Inspection	B. Apland	No	AIA for a proposed 330 km-long P/L from PG south to Kelly Lake identified 26 new sites, five in the PGFD.

Permit Number	Permit Type	Permittee/ Company	Forestry Permit?	Summary of Work
1981-028 (M.O.)	Inspection	Aresco	No	AIAs for BC Hydro of two T/Ls: a) 25 km long NW of PG identified no archaeological sites; b) 35 km long Williston-Nechako T/L found 1 CD site & 1 historic building site.
1980-007	Inspection	S. Irvine	No	Blanket permit issued for 1980 HCB work, incl. arch work in PG Hwys District & PG Lands District
1979-006	Inspection	S. Irvine	No	Blanket permit issued for 1979 HCB work, incl. arch work in PG Hwys District, PG Lands District. & Parks Branch
1979-013	Inspection	R.Blacklaws	No	Inventory along Mackenzie Grease Trail (AMHT) from Titetown Lk west to Alkatcho Lk. 48 sites found, none in PGFD.
1978-007	Inspection	J. McMurdo	No	Blanket permit issued for 1978 HCB work, incl. Nazko-Kluskus area..
1978-019	Inspection	K. Bernick	No	AIAs conducted for 13 Westcoast Transmis-sion P/L loops (3 in the PGFD at Hixon & Summit Lake). No sites found in the PGFD.
1977-017	Inspection	A. Mackie	No	5 Hwys project locations assessed in PGFD, all negative.
1977-018	Inspection	J.McMurdo	No	2nd 1977 HCB blanket permit under which arch inventory around Carp Lake found ~73 sites additional to the 1974 survey.
1976-004	Inspection	B. Ball	No	S end of NE Coal Study, 2 sites found at Tacheeda Lake (1 lithic, 1 CD)
1976-005	Inspection	J. Helmer	No	1976 Nazko-Kluskus survey, ~20 of 185 new sites recorded in PGFD
1976-007	Inspection	B.Simonsen	No	1976 McGregor River survey – 7 sites found
1975-004	Inspection	P. Sneed	No	HCB blanket permit under which 1975 Blackwater drainage survey found 293 sites, only a few located in the PGFD.
1974-001	Inspection	B.Simonsen	No	1974 HCB blanket permit under which Carp Lk. area surveyed. ~45 sites found.
1974-020	Investigation	J. Helmer	No	1974 test excavations at FiRs 1 (Punchaw Lk)
1973-008	Investigation	K. Fladmark	No	Report on 1973 SFU field school at FiRs 1
1973-030	Investigation	D. Hudson	No	Report on 1973 excavations at GaRo 1 (Giscome)
1972-034	Investigation	D. Hudson	No	Report on FkRr 1 excavation (Nadsilnich Lake), yielding a pre-1800 AD date.
1971-030	Investigation	A. Carl	No	A survey of provincial parks in BC yielded one site in the PGFD at St. Marie Lake

Appendix B

Archaeological Site Inventory, Prince George Forest District

Page 1	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FhRm-1	LS/CD	Surface/ subsurface	104 artifacts 3 cache pits	Y	Y	Y		340 x 120	Ahbau Lk- NW Terraces 1 & 2	1997-244 2007-123
FhRm-4	CMT/BS	N/A	1 or more B/S	N/A	N	Y (1914)	N/A	750 x 75		2000-044
FhRm-5	CMT/BS	N/A	5 LPP CMTs	N/A	Y	Y		30 x 25		2000-044
FhRm-6	CMT/BS	N/A	66? CMTs	N/A	Y	Y (1840-1938)	Y	250 x 250		2001-104 2002-048
FhRm-7	CMT/BS	N/A	194 CMTs	N/A	Y	Y	Y	700 x 650		2003-023 2003-363
FhRm-8	CMT/BS	N/A	5 CMTs	N/A	Y	Y (1846-1891)	Y	300 x 25		"
FhRm-9	CMT/BS	N/A	39 CMTs	N/A	Y	Y (1837-1917)	Y	425 x 50		"
FhRm-10	CMT/BS	N/A	81 CMTs	N/A	Y	Y (1837-1917)	Y	400 x 200		"
FhRm-11	CMT/BS	N/A	107 CMTs	N/A	Y	Y (1840-1970)	Y	500 x 400		"
FhRm-12	CMT/BS	N/A	403 CMTs	N/A	Y	Y (1819-1939)		597 x 386		2006-112
FhRo-1	LS	Subsurface	Flakes	N	Y	Y		10 x 10	On prominent esker, N. side Naver Ck	2003-023
FhRo-2	LS	Subsurface	Core/8 flks	Y	Y			20 x 20	N. side Little Trout Ck.	2006-112
FhRp-1	LS	Subsurface	3 flks (1 util)	Y	Y	Y		30 X 10		2002-224
FhRp-2	LS	Subsurface	37 flks/core	Y	Y	Y		80 x 30	NW side beaver pond	"
FhRp-3	LS	Subsurface	4 flakes	Y	Y	Y		10 x 2	NE side "	"
FhRp-4	LS	Subsurface	4 flakes	Y	Y	Y		4 x 2		"
FhRp-5	LS	Subsurface	4 microblades	Y	Y	Y		25 x 4	On point jutting into beaver pond	"
FhRp-6	IF	Subsurface	1 flake	Y	Y	Y		1 x 1	E. side beaver pd	"
FhRp-7	LS	Subsurface	6 flakes	Y	Y	Y		65 x 20	N. side "	"
FhRp-8	LS	Surface/ subsurface	2 surf flks/56 subs. flakes	Y-surf N-subs	Y	Y		35 x 20	Chubb Lk – NE terrace 1, by ck.	2002-052
FhRq-1	LS/CD	Surface/ subsurface	13 flakes 1 cache pit	Y	Y	Y		8 x 8		2001-257

Page 2	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FhRq-2	IF	Subsurface	1 chipped pt.	Y	Y	N		15 x 10	Flat area beside beaver dam	2002-224
FhRr-6	LS	Surface	~150 flks/ 1 ret flk	N	Y	N		8 x 8	N. bank Blackwater R.	1998-074
FhRr-7	IF	Surface	1 flake	N	Y	N		1 x 1	"	1998-074
FhRr-8	CD	Surface	2 -1.5 x 4 m depressions	N/A	Y	N		4 x 4	N. bank Blackwater R.	1998-074
FhRr-9	LS	Surface	14 flakes, on trail	N	Y	N		5 x 5	Beside intermit. drainage channel	1998-074
FhRr-11	LS	subsurface	23 flakes	N	Y	Y		10 x 10	Terrace above dry gully	2002-050
FhRr-12	CD	surface	3 cache pits	N/A	Y	Y		5 x 2		2002-050
FhRs-1	CD	Surface	3 cache pits	N/A	Y	N		100 x 50	N. bank Blackwater R.	1975-004
FhRs-2	CD	Surface	Cache pits (# unknown)	N/A	Y	N		75 x 25	"	1975-004
FhRs-3	LS/burial	Surface	3 flks, 10 burials (poss. Cemetery)	N	N (on reserve)	N		30 x 30		1975-004
FhRs-4	LS/trail/CMT	Surface	2 flks, CMT cluster, trail	N	Y	CMT cored to 1929		925 (trail) x 3	N. bank Blackwater R., terrace edge	1975-004 1995-195
FhRs-5	LS/CD/ burial	Surface	8 cache pits, near reserve cemetery	N	N (on reserve)	N		3 x 3?	N. bank Blackwater R., terrace	1975-004 1976-005
FhRs-6	LS	Surface	No description	Y	Y	N		30 x 30	On Blackwater R	1973-008 1975-004
FhRs-7	CD	Surface	8 cache pits	N/A	Y	N		10 x 10	N. bank Blackwater R	1975-004
FhRs-8	IF/CD	Surface	1 flk,1 cache pit	Y	Y	N		15 x 15	"	1975-004
FhRs-9	Historic	Surface	Refuse. Nr cemetery	N	N (on reserve)	N		10 x 10		1976-005
FhRs-10	LS/CD	Surface	Numerous flakes/tools. 1? cache pit	Y	? (reserve?)	N		?	N. bank Blackwater R., terrace	1976-005
FhRs-15	LS	Surface	4 flks (2 collected)	Y/N	Y	N		?	N. bank Blackwater R., terrace	1976-005
FhRs-25	CD	Surface	2 cache pits	N/A	Y	N		?	"	"
FhRs-26	CD	Surface	1 Cache pit	N/A	Y	N		2 x 2	"	"
FhRs-27	CD	Surface	4 CDs	N/A	Y	N		10 x 10	"	"

Page 3	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FhRs-28	CD	Surface	2 Cache pits	N/A	Y	N		?	"	"
FhRs-29	CD	Surface	2 cache pits	N/A	Y	N		2.5 x 2.5	N. bank Blackwater R., terrace	"
FhRs-30	CD	Surface	1 Cache pit	N/A	Y	N		?	"	"
FhRs-31	CD	Surface	3 cache pits	N/A	Y	N		?	"	"
FhRs-32	CD	Surface	1 cache pit	N/A	Y	N		2 x 2	"	"
FhRs-33	CD	Surface	1 cache pit	N/A	Y	N		2 x 2	N. bank Blackwater R., lower terrace	"
FhRs-34	IF	Surface	1 ret. flk.	N	Y	N		?	N. bank Blackwater R., upper terrace	"
FhRs-37	LS/CD	Surface	4 CDs, 7 flks assoc with AMHT. Site incl. FhRs 37, 39 & 73	N	Y	N		120 x 30	N. bank Blackwater R., high terrace	1986-011 B 2001-104
FhRs-38	Historic bldg	Surface	Cabin, assoc. w/ Telegraph Trail?	N/A	N	N		25 x 25	5 m above Blackwater R	1986-011B
FhRs-39	LS	Surface	5 flakes	N	Y	N		10 x 1	30 m above Blackwater R	1986-011
FhRs-40	LS	Surface	Flks/SN bif./ burned bone	N	Y	N		10 x 10	"	1986-011
FhRs-41	Trail	Surface	Pack trail. No other info	N/A	Y (site form)	Y		950 x 5	N side BR.Poss. Carrier Pack Tr.	1995-067
FhRs-42	CD	Surface	1 cache pit	N/A	Y	Y		2 x 2	Escarpment overlooking BR	1997-195
FhRs-47	CMT/BS	N/A	Unstated # of CMTs	N/A	N	Y (1899 & 1913)		100 x 50	Bench above Blackwater R	1997-195 1999-043
FhRs-48	LS	Subsurface	Tools, scrapers & knives, etc.	N	Y	Y		100 x 75	Present on 3 terraces above BR. Bisected by Telegraph Trail	1998-074
FhRs-49	LS	Subsurface	2 flakes 1 scraper	N	Y	Y		5 x 5	Terraces over Blackwater R	1998-074
FhRs-50	LS	Subsurface	4 flakes	N	Y	N		5 x 5	"	1998-074
FhRs-51	LS	Subsurface	7 flks,1 ret. flk	N	Y	Y		5 x 5	BR terraces	1998-074
FhRs-52	IF	Subsurface	1 flake	N	Y	Y		5 x 5	"	1998-074
FhRs-53	Trail	Surface	Carrier Pk Tr. Joins FhRs 41	N/A	Y? (site form)	N		1182 x 10	Terrace above Blackwater R	1999-211 2007-123

Page 4	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FhRs-54	Historic Trail	Surface	Horse trail CMT (BS)	N/A	N	Y (1909-1953)		460 x 100	"	1999-043
FhRs-55	CD/CMT (BS)	Surface	53 CMTs, 2 CDs (no desc.)	N/A	N?	Y (1918-1949)		700 x 200		1999-043
FhRs-59	CMT/BS	Surface	36 CMTs	N/A	N	Y (1895-1911)		247 x 110	Terrace above BR	1999-376
FhRs-60	CMT/BS	Surface	14 CMTs/ Carrier Pack Trail	N/A	N	Y (15 tests, 2 cores @ 1896		80 x 35		1999-376
FhRs-70	LS	Surface/ Subsurface	4 flakes, 1 scraper, 2 ret. flakes. Crosses AMHT.	N	Y	Y		10 x 10	Escarpment overlooking BR (n. side)	2000-339
FhRs-71	CD	Surface	6 CDs	N/A	Y	Y		250 x 50	100 m from BR escarpment	"
FhRs-72	LS	Subsurface	19 flakes	N	Y	Y		5 x 5	On terrace south of AMHT	"
FhRs-73	CD	Surface	3? CDs (no desc.)	N/A	Y	Y		30 x 10	100 m from BR escarpment	"
FhRs-74	IF	Surface	Chipped point	Y	Y	Y		5 x 5	On escarpment n side of BR	"
FhRs-77	LS	Subsurface	22 flakes	N	Y	Y		48 x 43		2001-142
FhRs-78	LS	Subsurface	17 flakes	N	Y	Y		79 x 43	Terrace 30-40 m above BR	2001-142
FhRs-79	LS/CD	Subsurface	2 flks/10 CDs	N	Y	Y		63 x 33	"	"
FhRs-80	LS	Subsurface	5 flakes	N	Y	Y		30 x 10	"	"
FhRs-81	LS	Subsurface	Kamloops Horizon point, 1 flake	N	Y	Y		10 x 10	10 m above unnamed pond	"
FhRs-82	LS	Subsurface	2 flks, 1 ret flk	N	Y	Y		10 x 10	10 m above pond	2001-142
FhRs-83	LS/CD	Subsurface	11 flks,1 core 5? Cache pits	N	Y	Y		340 x 285		2002-069
FhRs-84	CD	Surface	1 CD-housepit	N/A	Y	N		20 x 20		2002-069
FhRs-87 (see FiRr 1)	Trail	Surface	FhRs part of AMHT from Blackwater Rd to BW Xing	N/A	Y –designated	N		5507 x 200		Non-permit
FhRt-1	CD	Surface	3 cache pits	N/A	Y	N		10 x 10	N bank of BR	1975-004
FhRt-2	CD	Surface	2 cache pits	N/A	Y	N		?		"
FhRt-3	CD	Surface	1 cache? Pit	N/A	Y	N		4 x 3		"
FhRt-4	CD	Surface	1 rect. cache pit or pitfall	N/A	Y	N		2 x 1		"

Page 5	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FhRt-6	IF	Surface	Core fragment	N	Y	N		?	N side of BR	"
FhRt-7	Historic bldg/CD	Surface	Log cabin 4 pits	N/A	Y-cache? pits	N		?	N bank of BR	"
FhRt-16	LS/CD	Surface	2 CDs, 1 flake, 1 core	unstated	Y	N		50 x 20	N shore of BR	"
FhRt-22	LS	subsurface	Several small flks (<1 mm). On AMHT corridor	N	Y	Y		40 x 5	N side of BR, high terrace. 30 m above river	1986-011 2000-339
FhRt-23	LS	Surface	10 flakes, charcoal	N	Y	N		40 x 10	"	1986-011
FhRt-24	CD	Surface	2 cache pits	N/A	Y	N		50 x 10	"	"
FhRt-25	LS	Surface	4 flakes	N	Y	N		50 x 10		"
FhRt-26	CD	Surface	1 cache pit	N/A	Y	N		10 x 10	N side of BR, high terrace. 30 m above river	"
FhRt-27	LS	Surface	10+ flakes charcoal	N	Y	N		40 x 10	"	1986-011
FhRt-28	LS	Surface	5+ flakes	N	Y	N		20 x 10	"	"
FhRt-29	CMT/BS	Surface	11 stripped/ blazed CMTs	N/A	Y (site form)	N		100 x 75		1998-309
FhRt-33	IF	Subsurface	1 flake	N	Y	Y		5 x 5		2000-044
FhRt-34	LS	Subsurface	71 flakes	N	Y	Y		5 x 5	BR terrace	"
FhRt-35	IF	Subsurface	1 flake	N	Y	Y		5 x5		"
FhRt-36	CMT/BS	Surface	10 B/S	N/A	N	Y (1894-1914)		70 x 60		2000-044
FhRt-37	CMT/BS	Surface	14 B/S	N/A	N	Y (1916-1919)		75 x 50		"
FhRt-38	CMT/BS	Surface	6 B/S	N/A	N	Y (1892-1925)		250 x 150		"
FhRt-39	LS	Subsurface	4 flks, FBR	Y	Y	Y		5 x 5	BR terrace	"
FhRt-55	IF	Subsurface	1 flake	N	Y	Y		5 x 5	Flat terrain 50 m from AMHT, which //s a steep escarpment	2000-339
FhRt-56	LS	Subsurface	54 flakes	N	Y	Y		10 x 10	"	"
FhRt-57	LS	Subsurface	8 flks,1 micro-blade	N	Y	Y		5 x 5	On crest of steep slope, n. side of AMHT. BR escarpment s of trail.	"

Page 6	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FhRt-58	IF	Surface	Scraper	Y	Y	N		?	On 20% slope above pond to the west. On road	Non-permit
FhRt-66 (See FiRr 1)	Trail	Surface	FhRt part of AMHT from Blackwater Rd to Kluskus Rd	N/A	Y designated	N		12450 x 200		Non-permit
FhRu-1	CD	Surface	1 cache pit	N/A	Y	N		20 x 10	N bank of BR	1975-004
FhRu-2	Historic bldg	Surface	Trappers cabin	N	N	N		30 x 30	"	"
FhRu-5	CD/CMT	Surface	3 cache pits, 1 B/S post-1846? CMT	N/A	Y	N		2 x 2	N bank of BR, 1st terrace edge	1975-004 1998-309
FhRu-6	CD	Surface	7 cache pits	N/A	Y	N		35 x 10	N bank of BR	1975-004
FhRu-12	CD/CMT	Surface	2-3 cache pits, 1 post-1846 CMT (BS)	N/A	Y	Y-CDs. CMT not dated		200 x 125		1997-047
FhRu-13	CMT	Surface	70 CMTs (66 B/S, 3 kind-ling, 1 stump)	N/A	N	Y/ Y (1893-1962)		2400 x 40	N side of AMHT	1999-043
FhRu-14	CMT	Surface	52 BS,2 kind-ling trees	N/A	N	Y (1854-1946)		900 x 75	N side of BR, assoc. w/ AMHT	"
FhRu-15	CMT	Surface	203 BS, 1 blaze 5 kindling	N/A	N	Y (1878-1940)		1600 x 350	In protection zone of AMHT	1999-043
FhRu-16	CMT	Surface	14 BS,2 kind-ling trees	N/A	N	Y (1887-1969		250 x 50	"	"
FhRu-17	CMT	Surface	136 BS, 4 kindling trees	N/A	N	Y (1867-1925)	Y	2250 x 100	"	1999-043 2000-044 20000-339
FhRu-25	LS	Subsurface	2 flakes & shatter	N	Y	Y		10 x 5	S side of BR, 35-40 m from terrace edge	2000-118
FhRu-34 (See FiRr 1)	Trail	Surface	FhRu part of AMHT from Kluskus Rd to Nataniko Ck	N/A	Y designated	N		11861 x 20		Non-permit
FiRl-1	LS	Surface	No desc. of lithcs	N	Y	N		135 x 17	N side of Stony Lake below high water level	1998-147

Page 7	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FiRl-2	LS	Surface	19 flakes, 1 uniface, 1 ret. flk (obsidian), 1 point tip, 1 CN point	Y/N	Y	Y		65 x 35	W shore Stony Lake in beach gravels	1999-201 2007-123
FiRl-3	LS	Surface, in exposed ck gravels	No desc. of lithics	N	Y	N		30 x 20	N shore Stephanie Ck on Stony Lk	1999-201
FiRl-4	CMT/BS	Surface	17 CMTs	N/A	N	Y (1935-1955)		100 x 75		2002-050
FiRl-5	LS/CD	Subsurface?	13 flks, 2 cache pits	Y/N	Y	Y		175 x 47	Ck terrace 100 m from Willow R	2005-052
FiRl-6	CMT	Surface	23 BS, 2 blazed	N/A	Y	Y (1823-1893)		110 x 71	Edge of small ck flowing to Willow R	"
FiRl-7	CMT/BS	Surface	5 BS CMTs	N/A	Y	N (dead)		34 x 25	N side Willow R	2006-112
FiRm-1	CMT/BS	Surface	1 CMT	N/A	N? "TUS"	N		2.5 x 2		2000-044
FiRm-2	CMT/BS	Surface	1 CMT	N/A	N? "TUS"	N		2.5 x 2		"
FiRm-3	CMT/BS	Surface	402 CMTs	N/A	Y	Y (1842-1900)	Y	1050x225		2000-044 2002-050,-236
FiRm-4	CMT/BS	Surface	138 CMTs	N/A	Y	Y (1801-1911)		682 x 224	N side Gold Ck	2006-112
FiRn-1	CMT/BS	Surface	12 CMTs	N/A	Y?	N (dead)		254 x 55	W. bank Naver Ck	2005-364
FiRn-2	CMT/BS	Surface	22 CMTs	N/A	Y?	Y (1820-1875)		193 x 113	Confl. of Naver & Muirhead Cks	2006-112
FiRo-1	LS	Surface/ subsurface	1 proj. pt., 2 scrapers, 36+ flakes	Y/N	Y	Y		85 x 35	N side of Yardley Lk	2002-050
FiRp-1	LS	Surface	4 flakes, possible FBR	N	Y	Y		4 x 3	N side of Naver R, 65 m terrace	1974-001 1981-025
FiRp-2	LS	Surface	No desc of lithics	N	Y	N		?	S bank Fraser R on river terrace	1974-001
FiRp-3	CMT/BS	Surface	2 B/S	N/A	N	Y (1895, 1906)		50 x 50		2000-044
FiRr-1	Trail	Surface	Fraser River section? of AMHT	N/A	Y designated	N		1415 8 x 200	Crosses 29 Borden blks, each segment with its own #	Non-permit
FiRr-4	IF	Surface	1 flake	N	Y	Y		1 x 1	E shore of unnamed lake	1994-056

Page 8	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FiRr-5	CMT/BS	Surface	No descript., assoc w/FiRr 6	N/A	N	Y (1895-1921)		600 x 300	Top of ridge passing thru blk	1998-191
FiRr-6	Trail ("Old Indian Trail")	Surface	Punchaw Lk – Fraser R Trail. See FiRs 16. 30 ass. CMTs	N/A	Y – trail may be part of AMHT	Y (1919-1966)		7500 x 2		1998-191 2007-087
FiRr-7	CMT/BS	Surface	11 CMTs	N/A	N	Y (1877, 1887)		90 x 70	Edge of low terrace	1999-376
FiRr-8	LS	Subsurface	19 flakes	N	Y	Y		10 x 10		2003-023
FiRs-1	General activity	Surface/ subsurface	1973/4: 13000 artifacts (175 pts), human remains, house depressions & platforms	Y	Y designated	Y		300 x 180	Steep NW bank of Tako Ck at SW end Punchaw Lake	1973-008 1975-004 1986-011
FiRs-2	LS	Surface	Unkn. # flakes ("few")	Y	Y	N		30 x 30	NW shore Cleswancut Lk	1975-004
FiRs-3	LS	Surface	1975: 34 flakes, core, biface frag	Y	Y	N		210 x 80	2 terraces, NW shore Punchaw Lake. Adjacent inlet ck	1975-004 2007-123
FiRs-4	LS	Surface	4 flakes, quartzite piece	N	Y	Y		20 x 20	E side Punchaw Lk, 1 m above s side Tako Ck	1980-007
FiRs-5	LS/CD	Surface	3 flakes, 1 cache pit	N		Y		25 x 18	"	1980-007
FiRs-6	CD	Surface	5 cache pits	N		Y		50 x 20	"	1980-007
FiRs-7	CMT/BS	Surface	8 B/S	N/A	N	Y (1914-1947)		250 x 50		1999-043
FiRs-8	LS	Subsurface	38+ flakes, 1 ret flk, burned bone	Y	Y	Y		46 x 21	E side Tako Ck at Punchaw Lk	2000-339
FiRs-9	LS	Subsurface	18 flakes	N	Y	Y	Y	10 x 10	30-40 m above Tako Ck	2001-142 2003-233
FiRs-10	IF	subsurface	1 flake	N	Y	Y	Y	12 x 12	"	"
FiRs-11	Trail	Surface	Vague ref to assoc. w/ 2 B/S CMTs	N/A	Y	N (heavy lobes, blazes		900 x 2		2002-050 2003-023
FiRs-12	IF	Subsurface	1 flake	Y	Y	Y		10 x 10	Terraced ridge overlooking Bonallie Ck	2002-050
FiRs-13	IF	Subsurface	I flake	N	Y	Y		8 x 8	Flat terrace 30 m above Tako Ck	2003-058

Page 9	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FiRs-14	CD - mixed types	Surface	1 cache pit, 1 roasting pit w/ burned bone	N/A	Y	Y		25 x 20		2003-023
FiRs-15	Trail	Surface	AMHT-FiRs-Punchaw Lk	N/A	Y designated	N		13261 x 200		Non-permit
FiRs-16	Trail ("Old Indian Trail")	Surface	Punchaw Lk – Fraser R Trail. FiRr segment is FiRr 6	N/A	Y	N		3500 x 2		2007-087
FiRt-1	LS	Subsurface	5 flakes	N	Y	Y		20 x 20	Unnamed ck terrace, 7 m high	2004-033
FiRt-2	LS	Subsurface	2 flakes, assoc. w/ trail feature	N	Y	Y		27 x 15	On terrace over unnamed ck, close to FiRt 3-5	2005-364
FiRt-3	LS	Subsurface	4 flakes, assoc. w/ trail feature	N	Y			25 x 15	" Near FiRt 2,4,5	"
FiRt-4	LS	Subsurface	174 flks, assoc w/ trail feature	N	Y			45 x 40	" Near FiRt 2,3,5	"
FiRt-5	LS	Subsurface	2 flakes, assoc. w/ trail feature	N	Y			20 x 20	" Near FiRt 2-4	"
FiRt-6	Trail	Surface	Assoc. with post-CMT site & 4 LS sites	N/A	Y	N		2867 x 50	On terrace over unnamed creek	"
FiRt-7	IF/CD	Subsurface/ surface	1 flake, 1 cache pit	N	Y	Y		20 x 20	On small terrace 1 m above lake	"
FiRu-1	LS	Surface	39 flakes	N	Y	N		300 x 65	N side Barton Lk	1998-147 2007-123
FiRu-2	LS	Subsurface	3 flks, 1 scraper	N	Y	Y		40 x 10	N side large wetland	2002-050
FiRu-3	LS	Subsurface	4 flks, scraper,uniface	N	Y	Y		15 x 10	"	"
FiRu-4	LS	Surface/ subsurface	47 flks, 2 scrapers	Y –scrapers only	Y	Y		20 x 20	NE end Walkin Lk, 10 m esker	2003-023
FiRu-5	CMT/BS	Surface	32 B/S	N/A	Y	Y (1814-1851)		150 x 70	NW side Walkin Lk	2003-246
FiRu-6	CMT/BS	Surface	6 B/S	N/A	Y	Y (1824, 1838)		80 x 20	S side Walkin Lk	"

Page 10	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FiRu-7	CMT/BS	Surface	4 B/S	N/A	Y	Y (1838, 1903)		35 x 15	W side Walkin Lk	2003-246
FiRu-8	IF	Subsurface	1 flake	N	Y	Y		10 x 10	90 m s of Walkin Lk	"
FiRu-9	CD	Surface	1 cache pit	N/A	Y	Y		12 x 12	50 m SE of Walkin Lk	"
FiRu-10	LS	Subsurface	9 flakes	N	Y	Y		20 x 13	W side of inlet ck to Walkin Lk	"
FiRu-11	IF	Subsurface	1 flake	N	Y	Y		10 x 10	E side outlet ck, s end Walkin Lk	"
FiRv-11	LS	Surface	Several flks (ret., debitage)	N	Y	N		30 x 30	S end Tagia Lk by stream	1976-005
FiRv 12	IF	Surface	1 flake	N?	Y	N		?	N shore Tagia Lk	"
FiRv-13	CD	Surface	3 cache pits	N/A	Y	N		?	On small island in Tagia Lk	"
FiRv-14	LS	Surface subsurface	201 flks, 1 CN pt.- incl 1 CD	Y-point N-flakes	Y	Y (for e. bdy only)		120 x 70	NE shore Meadow Lk	1999-201 2007-123
FiRv-15	LS	Surface	No descry. But incl 1 obsid.flk	N?	Y	N		180 x 35	SE shore Meadow Lk	1999-201
FiRv-19	IF	Surface	1 large flk	N	Y	Y		20 x 20	N shore Lintz Lk	2007-123
FiRw-4	CD	Surface	2 cache pits	N/A	Y	N		20 x 10	S shore large is. w. end Tagai Lk	1976-005
FiRw-5	CD	Surface	1 cache pit	N/A	Y	N		?	N shore Tagai Lk	"
FiRw-6	CD	Surface	2 cache pits	N/A	Y	N		?	"	"
FiRw-7	CD	Surface	1 cache pit	N/A	Y	N		?	SE end Tagai Lk	"
FiRw-10	CD	Surface	10 cache pits	N/A	Y	Y		55 x 45	S side Tagai Lk, upper terr above small inlet ck	2006-112
FiRx-33	CMT/BS	Surface	73 B/S	N/A	Y	Y (1817-1933)		200 x 150		2002-050

Page 10	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FjRm-1	LS	Surface	6 flakes	Y	Y	N		60 x 45	NW side Pitoney Lk, by outlet ck	1999-201 2007-123
FjRm-2	LS	Subsurface	3 flks, burned bone	N	Y	Y		35 x 30	NW side Pitoney Lk, low terrace	2007-123
FjRo-1	Cairn	Surface	5 small rocks atop lg boulder	N/A	Y (but likely historic)	N/A		10 x 10	Located on E-W high ridge, rocky terrain	2008-175
FjRp-1	IF	Surface	1 proj. point	Y	Y	N		?		1974-001 1981- MO25
FjRp-2	IF	Surface	1 uniface	N	Y	Y		1 x 1		2000-044
FjRp-3	LS	Subsurface	12 flks, 2 cobble tools	Y	Y	Y		70 x 20	3 m high terrace, e. side Fraser R, n. of Stone Ck	2008-253
FjRq-1	IF	Surface	1 proj. point	Y	Y	N		?	Sand ridge e. side of Fraser R	1974-001
FjRr-1	CMT/BS	Surface	3 B/S	N/A	?	N-rotten interior		30 x 30		1999-043?
FjRr-2	CMT/BS	Surface	6 B/S	N/A	N	Y (1906)		110 x 30		1999-043
FjRr-3	LS	Subsurface	3 flakes, 1 scraper	N	Y	Y		37 x 18	NW side Lynx Lk on high ridge	2003-246
FjRr-4	LS	Subsurface	4 flakes, 1 uniface	N	Y	Y		35 x 20	Edge of wetland above Leigh Ck	2004-033
FjRr-5	LS	Subsurface	3 flakes	N	Y	Y		41 x 27	Small pt extend-ing into pond	2005-052
FjRr-6	IF	Subsurface	1 flake	N	Y	Y		20 x 16	E side West Mackenzie Lk	2005-364
FjRr-7	LS	Subsurface	6 flakes	N	Y	Y		43 x 18	"	"
FjRr-8	IF	Subsurface	1 flake	N	Y	Y		20 x 20	E side East Mackenzie Lk	"
FjRr-9	LS	Surface/ subsurface	29 flakes	N (23 flks) Y (6 – incl microblade	Y	Y		190 x 104	N side East Mackenzie Lk, low terr. on point	"
FjRr-10	CMT/BS	Surface	74 B/S	N/A	Y	Y (1832-1952)		293 x 124		2006-112
FjRr-11	LS	Susurface	2 flakes	N	Y	Y		10 x 10	3 m high terrace over small wetland to south	2007-112
FjRr-12	IF	Subsurface	1 flake	N	Y	Y		10 x 10	"	"
FjRs-1	CMT/BS	Surface	15 B/S	N/A	N	Y (1876-1928)		250 x 150	W side Chilako R, 100 m from Chilako R PkTr	1999-043

Page 12	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FjRs-2	LS	Subsurface	7 flakes	N	Y	Y		50 x 50	W side beaver pond on slightly elevated point	2003-023
FjRs-3	LS	Subsurface	7 flakes	N	Y	Y		27 x 23	Terrace above small lk (e side)	2003-246
FjRs-4	LS	Subsurface	2 flakes	N	Y	Y		10 x 10	2 m terrace on e side wetland	2003-246
FjRt-1	CMT/BS	Surface	96 B/S	N/A	Y	Y (1831-1945)	Y (partial harvest)	625 x 175		2002-050 2009-145 (AP)
FjRt-2	LS	subsurface	3 flakes, 1 core remnant	N	Y	Y		80 x 20		2003-023
FjRu-2	LS	Surface	500+ flakes, 3 pts (poss. fr. Fladmark's LM to Late Period i.e. <3500 BP)	Y-points N-flakes	Y	N		800 x 230	E shore Naltesby (Bobtail) Lk	1998-147 2007-123
FjRu 3	LS	Subsurface	4 flakes	N	Y	Y		33 x 18	N tip small unnamed lk	2004-033
FjRu-4	LS	Subsurface	6 flakes	N	Y	Y		70 x 20	SE corner small unnamed lk	"
FjRu-5	LS	Subsurface	3 flakes	N	Y	Y		25 x 20	NW shore small unnamed lk	"
FjRv-20	CD	Surface	2 cache pits	N/A	Y	Y		10 x 5	On small knoll nr. 2 wetlands	2001-104
FjRv-21	CD	Surface	2 cache pits	N/A	Y	Y		15 x 12	On small knoll	"
FkRg-1	Legacy	Surface	Legacied – IF site, anecdotal	N/A	N-legacied	N/A		?		1972-018?
FkRn-1	LS	Surface	11 flakes, 1 biface	Y-biface N-flakes	Y	N		170 x 130	1 m terrace, NE end St Marie Lk	1999-201 2007-123
FkRo-1	LS	Surface	2 flakes, 1 end scraper	Y	Y	N		?	NW end St Marie Lk	1971-030
FkRo-2	LS	Surface/ subsurface	32 flakes	Y	Y	Y-minimal		~500 x 440	N side St Marie Lk West	1999-201 2005-052
FkRo-3	CMT	Surface	1 blazed	N/A	Y	Y (1840)		1 x 1	SW side St Marie Lk	1999-201
FkRo-4	LS	Subsurface	10 flakes	N	Y	Y		10 x 10	E side St Marie Lk	"
FkRo-5	LS	Surface/ subsurface	17 flakes	N	Y	Y		10 x 5	NW shore Francis Lk	1999-201 2007-123

Page 13	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FkRp-1	LS	Surface	Core, "arrow-heads","spear-heads", ret. flk	Y-core BCPM,rest private	Y	N		?	Both sides Red Rock Ck, Patterson prop.	1974-001
FkRp-2	IF	Surface	1 proj. point (ploughed up)	?	?-decision pending	N		?	Headwaters Red Rock Ck	1974-001
FkRp-3	IF	surface	"	?	"	N		?	NW ¼ L 4606	"
FkRp-4	Legacy	Surface LS	2 flks, FCR	N	N-legacied	N		?	2 m above Red Rock Ck. Not found on 1981 revisit	1974-001 1981-MO25
FkRp-5	Legacy	Surface IF	1 flake	N	N-legacied	N		?	2.5 m above Wishin Ck. Not found 1981	"
FkRq-1	IF	Surface	1 flake	Y	Y	Y		10 x 10	w. bank Fraser River, 100 m above	1982-030
FkRr-1	LS/CD	Surface Subsurface	Several small CDs + flakes, pts, scrapers	Y	Y	Y		46 x 15	N end Nadsilnich (West) Lake	1972-034
FkRr-2	CD	Surface	Housepit, 2 cache pits	N/A	Y	N		?	Terrace s. side Beverly Ck	1975-007
FkRr-3	LS	"	'arrowheads" + scraper/ chopper rept'd in field	Y?	Y	N		80 x 25	Field behind Kienzle farmhouse	1975-002
FkRr-4	LS/CD	?	HR (2 skulls), 2-3 housepits,3 cache pits, lithics (tools)	Y-HR Y-tools (private)	Y	N		?	East & west banks Chilako River	1975-007 1982-030
FkRt-1	LS	Surface	8 flks,1 biface, 1 bif. ret flk	N	Y	N		75 x 50	NW shore Dahl Lk, tip of SE extending pt	1980-007
FkRt-2	CD	"	8 cache pits	N/A	Y	N		50 x 50	Dahl Lake, 3-4 m terrace on small isl.	"
FkRt-3	LS/CD	"	19 flks, 1 ret. flk, 1 cache pit	N	Y	N		80 x 25	Dahl Lake, 4-5 m terrace on nw shore e of outlet ck	"
FkRt-4	LS	"	5 flks, burnt bird bone, charcoal	N	Y	Y		35 x 15	Norman Lk, e. shore, 3-5 m terrace	"
FkRt-5	LS	"	9 flks, 1 util. Flake	N	Y	Y		25 x 15	"	1979-006
FkRt-6	IF	"	1 biface	Y	Y	Y		?	Dahl Lake, 4-5 m terrace on nw shore	1980-007
FkRt-7	LS/CD	Surface	Several flks, 1 biface,4 cache pits	N	Y	Y		150 x 50 (whole isl)	Dahl Lake, on small island in lake centre	Non-permit

Page 14	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FkRt-8	LS/CD	Subsurface	41 flks, 1 drill, 1 CD?	Y-drill	Y	Y		43 x 20 est.	On flat point into Square Lk outlet ck	2004-033
FkRu-1	LS/CD	?	2 flakes, 1 cache pit	N	Y	Y		14 x 14	On 2 m high terrace, undiff. terrain	2007-112
FkRv-9	CD	Surface	3 cache pits	N/A	Y	N		88 x 45	On top of small ridges	1997-195
FkRv-10	CD	"	6 cache pits	N/A	Y	N		77 x 47	"	"
FlRj-1	IF	"	1 maul with zoomorphic hd	Y-private	Y	N		?	1 m above Moxley Ck	Non-permit 1980
FlRn-1	CD	"	4 cache pits	N/A	Y	N		50 x 25	10 m above Willow Ck on east bank	" 1976
FlRn-2	Historic structure/ CD	"	Lean-to with round nails/ cache pit?	N/A	Y due to cache pit	N		95 x 15	East bank Willow R.	" 1976
FlRn-3	CD	"	2 cache pits	N/A	Y	N		45 x 30	W bank Willow R., on flat bench 6 m above Pierre Creek	" 1976
FlRn-4	Trail / CMT	"	Purden Lake Trail/ 26 CMTs	N/A	Y - trail	Y (1857-1917)		1583 x 20	East side Wansa Ck	2004-033
FlRp-1	Historic bldg	"	Log cabin – school	N/A	N	N		120 x 30		1981-MO28
FlRq-1	CD	"	Housepit	N/A	Y	Y		5 x 5		1973-028
FlRq-2	CD	"	Cache pits(s?)	N	Y	N		70 x 20	W bank Fraser River, s side Partridge Ck	Non-permit 1976
FlRq-3	Historic fort	?	Fort George 1806-1912	N/A	Y	Y		80 x 60	W bank Fraser River, 20 m above river	1977-017 1998-218
FlRq-4	CD	"	21 cache pits	N	Y	N		60 x 50	NW side, confluence of Fraser & Nechako	1981-MO28
FlRq-5	Historic bldg	N/A	6th Avenue Liquor Store	N?A	N-municpl designation only	N		?		Non-permit
FlRq-6	Historic bldg	N/A	PG Dept of Highways bungalow	N/A	N-municpl designation only	N		?		Non-permit
FlRq-7	Historic bldg	N/A	Federal gov't building	N/A	"	N		?		"
FlRq-8	Historic grave-yard	Subsurface	Several graves assoc. w/ fauna/artifacts	Y	Y	Y		145 x 135 partial	Tested area in Ft George Park, rest of site on reserve	2005-382

Page 15	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FlRq-9	LS/CD	"	3 cache pits, fauna, artifacts	Y (incl. faunal)	Y	Y		175 x 44	NW bank Fraser R., 40 m terr. facing SE	2006-209 2007-290
FlRq-10	LS	"	24 flakes, faunal mat.	Y-flakes	Y	Y		150 x 15	"	2006-209
FlRq-11	LS	"	4 flakes	Y	Y	Y		18 x 13	NW bank Fraser R., 4 m high s-facing ridge	"
FlRq-12	LS	"	15 flakes	Y	Y	Y		5 x 5	NW bank Fraser R., 2 m high hummock	"
FlRq-13	LS/CD	Surface subsurface	Large lithic assemblage, 57 cache/roasting pits	Y	Y	Y		125 x 100	NW bank Fraser R., 40 m terrace facing SE	2006-209 2006-416 (invest.)
FlRq-14	LS	"	Unkn. # lithics	Y	Y	Y	Y	36 x 25	On small ridge feature	2007-339 2008-188 (Alt.Perm)
FlRq-15	LS/CD	"	45 flks, 1 tool, bone, FCR, 2 cache pits	Y	Y	Y		85 x 27	On terrace of seasonal drainage flowing to Fraser R	2007-339
FlRq-16	IF/CD	"	20 cache pits, 1 flk, fauna	Y	Y	Y		340 x 85	West side Fraser R., middle terrace	2007-339 2008-277
FlRq-17	LS	"	10 flakes	Y	Y	Y	Y	30 x 8	On a small ridge	2007-339 2008-188 (Alt.Perm)
FlRq-18	CD	Surface	178 cache pits	N/A	Y	Y		940 x 165	West side Fraser R., lower terrace	2007-339 2008-277
FlRq-19	LS/CD	Surface subsurface	7 flks, scraper, 1 cache pit, 2 Kamloops Horizon points	Y	Y	Y		14 x 12		2008-277 2009-129
FlRq-20	LS	Subsurface	2 flakes	Y	Y	Y		40 x 9	Small south-facing bench above creek	2009-129
FlRr-1	CD/ mound	Surface	2 CDs, 1 mound	N/A	N (IR 4)	N		51 x 20	Confluence of Mud & Nechako rivers	1978-007
FlRr-2	CD/ canoe	"	5 cache pits, adzed canoe	N	"	N		60 x 35	South bank Nechako River	"
FlRr-3	CD	"	11 cache pits	N	"	N		25 x 23	S bank Nechako R., 3-4 m terr. over river	"

Page 16	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FlRr-4	CD	"	4 cache pits	N	Y-borders IR 4	N		10 x 5	S bank Nechako R., 5 m above river	"
FlRr-5	Historic bldg	"	Log cabin w/ root cellar	N	N	N		25 x 15	S bank Nechako R., 8 m above river	"
FlRr-6	Legacy	"	Raised rect. mound feature	N/A	N-non-cultural?	N		10 x 8		"
FlRr-7	CD	"	1 cache pit	N	Y	N		2 x 1	" 5 m above river	"
FlRr-8	CD	"	3 "depressions of historic value", cabin remains?	N	N	N		?	" High terrace	"
FlRr-9	Historic bldg	"	Log cabin	N	N	N		?		"
FlRr-10	LS/CD	"	10 cache pits, flks, scraper	N	Y	N		?	"	"
FlRr-11	Historic bldg	"	4 log buildings	N	N	N		?		"
FlRr-12	CD	"	45 cache pits	N/A	Y	N		?	" Small 12 m high terr.	"
FlRr-13	CD	"	1 cache pit	N/A	Y	N		1 x 1	" Small 14 m high terr.	"
FlRr-14	CD		6 cache pits	N/A	Y	N		?	S bank Nechako R.	1978-007
FlRr-15	CD	"	14 cache pits	N/A	Y	N		?	S bank Nechako R., 3 m terrace	"
FlRr-16	Historic	"	Miworth Ferry Crossing	N/A	N	N		?	N/S side Nechako R., assoc w/Stoney Ck Tr	"
FlRr-17	Historic/CD	"	6 bldgs, 2 CDs 3 mounds	N	Y	N		150 x 60	S side Nechako R., 10 m above river	"
FlRr-18	CD	Surface	1 cache pit	N	Y	N		2 x 2	S bank Nechako R., 2 m terrace	1978-007
FlRr-19	CD/hist. trail	"	6 placer mining pits	N/A	N	Y		1000 x 2	West bank Nechako R., 3rd terrace	1999-211
FlRr-20	CD	"	250+ small circ. Depressns	N/A	Y	Y		719 x 382	West bank Nechako R., 2nd terrace	1999-211 2005-052
FlRr-21	LS	Subsurface	6 flakes	N	Y	Y		3 x 2	N side Chilako R. on abandoned fluvial terrace	2002-224 2004-070
FlRr-22	CD	Surface	2 cache pits	N/A	Y	N		30 x 8	"	2002-224

Page 17	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FlRr-23	CD	"	3 cache pits	N/A	Y	N		40 x 21	N side Chilako R. on abandoned channel nr terrace edge	"
FlRr-24	CD	"	1 cache pit	N/A	Y	N		2 x 2	"	"
FlRr-25	CD	"	1 cache pit	N/A	Y	N		2.5 x 2.5	"	"
FlRr-26	CD	"	1-2 housepits, 11 cache pits, 1 roasting pit	N	Y	N		42 x 24	On point bar deposit 110 m n of Chilako River	"
FlRr-27	CD	"	3 cache pits	N/A	Y	N		8 x 5	N side Chilako R. on abandoned fluvial terrace	"
FlRr-28	LS/CD	Subsurface	Large lithic assemblage, undescribed # cache pits	N-2002 & 2004 Y-2007	Y	Y		140 x 90	"	2002-224 2004-070 2007-190
FlRr-29	CD	Surface	2 cache pits	N/A	Y	Y-2004		5 x 4		2002-224 2004-070
FlRr-30	CD	"	2 cache pits	N/A	Y	N		5 x 4	Chilako R,abandoned fluvial terrace	2002-224
FlRr-31	CD	"	9 cache pits	N/A	Y	N		60 x 36	"	"
FlRr-32	LS	Subsurface	Assemblage of flakes, bifaces, preforms etc	Y/N-2004 Y- 2007	Y	Y		110 x 60	On 15 m high terrace, 500 m e of Nechako River	2004-070 2007-190
FlRr-33	LS	"	7 flakes, 2 tools	Y-tools N-flakes	Y	Y		40 x 35	"	2004-070
FlRr-34	LS	"	3 flakes	Y	Y	Y		10 x 10	West side Nechako R., 2nd terrace	2005-052
FlRr-35	IF	Surface	1 flake	Y	Y	Y		20 x 15	West side Nechako R., 2nd terrace	2005-052
FlRr-36	LS	Subsurface	25 flakes	Y	Y	Y		35 x 15	West side Nechako R., 1st terrace	"
FlRr-37	CD	Surface	2 cache pits	N/A	Y	Y		18 x 14	On terrace 270 m SE of east side Nechako	2005-174
FlRs-1	LS/CD	Subsurface	11 flakes, 1 microblade, 33 cache pits	N	Y	Y		220 x 160	On low ridge 330 m SE of east side of Nechako River	2006-209
FlRs-2	CD	Surface	5 cache pits	N/A	Y	N		40 x 17	On terrace 245 m SE of east side Nechako	"

Page 18	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FlRs-3	CD	"	1 cache pit	N/A	Y	Y		12 x 12	On terrace 600 m SE of east side Nechako	"
FlRs-4	CD	"	1 cache pit	N/A	Y	N		12 x 12	Atop levy 180 m SE of Nechako River	"
FlRs-5	LS/CD	Surface subsurface	2 flakes, 2 cache pits	N	Y	Y		50 x 35	Terrace edge 255 m SE of Nechako R	"
FlRs-6	CD	Subsurface	1 flake	N	Y	Y		10 x 10	Terrace edge 500 m SE of Nechako R	"
FlRs-7	CD	Surface	1 cache pit	N/A	Y	Y		15 x 15	515 m S of Nechako	"
FlRs-8	CD	"	7 cache pits	N/A	Y	Y		105 x 70	On terrace above wetland to N & S	"
FlRs-9	CD	"	4 cache pits	N/A	Y	Y		35 x 15	Undifferentiated terr.	"
FlRs-10	CD	"	2 cache pits	N/A	Y	Y		16 x 12	Small terrace above seasonal drainage	"
FlRs-11	CD	"	1 cache pit	N/A	Y	Y		15 x 15	Undifferentiated terr.	"
FlRs-12	CD	"	1 cache pit	N/A	Y	Y		12 x 12	High river terrace, 600 m S of Nechako	"
FlRs-13	CD	Surface	93 cache pits	N/A	Y	Y		205 x 170	On stream gully 360 m S of Nechako R	"
FlRs-14	LS/CD	Surface subsurface	4 flakes, 1 cache pit	Y	Y	Y		10 x 10	Terrace edge 225 m S of Nechako R	"
FlRs-15	CD	Surface	14 cache pits	N/A	Y	N		47 x 30	Ravine edge, 260 m S of Nechako River	"
FlRs-16	CD	"	2 cache pits	N/A	Y	Y-minimal		20 x 15	Ravine edge 530 m S of Nechako River	"
FlRs-17	CD	Surface	1 cache pit	N/A	Y	Y		11 x 11	Low bank top above seasonal drainage	2006-209
FlRs-18	CD	"	1 cache pit	N/A	Y	Y		12 x 12	Terrace edge 400 m S of Nechako River	"
FlRs-19	CD	"	2 cache pits	N/A	Y	Y- minimal		35 x 15	Undifferentiated terrain	"
FlRs-20	CD	"	1 cache pit	N/A	Y	Y		12 x 12	Terrace edge 300 m S of Nechako River	"
FlRt-1	CD	"	2 cache pits	N/A	Y	Y		50 x 13	Nechako R., n bank	2007-112

Page 19	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FlRt-3	CD	"	1 cache pit	N/A	Y	N		13 x 13	N side Nechako R on large flat terrace	"
FlRt-4	CD	"	21 cache pits	N/A	Y	N		128 x 71	"	"
FlRt-5	CD	"	9 cache pits	N/A	Y	N		50 x 35	"	"
FlRt-6	CD	"	26 cache pits	N/A	Y	N		110 x 90	"	"
FlRt-7	LS	Subsurface	2 flakes	Y	Y	Y		47 x 20	NE side Berman Lk on 10 m high esker	2009-127
FlRt-8	LS	"	Lithic tools & debitage	Y	Y	Y		240 x 110	E side Berman Lk on 3 m high terrace	"
FlRt-9	LS	"	Lithic tool (1) & debitage	Y	Y	Y		100 x 42	NE side Berman Lk 5-10 m high	"
FlRt-10	CD	Surface	3 cache pits	N/A	Y	N		160 x 42	S side Berman Lk on N-facing peninsula, 2 m high	"
FlRu-1	CD	"	4 cache pits	N/A	Y	N		10 x 8	S bank of Nechako R. on high terrace	1984-021
FlRu-6	CD	"	1 cache pit	N/A	Y	N		14 x 13	N bank of Nechako R	2007-112
FlRu-7	CD	"	2 cache pits	N/A	Y	Y-incompl.		39 x 13	"	"
FlRu-8	CD	"	4 cache pits	N/A	Y	Y-incompl.		45 x 40	"	"
FlRu-9	CD	"	31 cache pits	N/A	Y	Y-incompl.		288 x 150	"	"
FlRu-11	CD	"	1 cache pit	N/A	Y	N		15 x 13	"	"
FlRu-12	CD	"	2 cache pits	N/A	Y	Y		37 x 15	"	"
FlRu-13	CD	"	3 cache pits	N/A	Y	N		36 x 12	"	"
FlRu-14	CD	"	1 cache pit	N/A	Y	N		12 x 12	'	"
FlRu-15	CD	Surface	2 cache pits	N/A	Y	N		30 x 13	N bank of Nechako R	2007-112
FlRu-16	CD	"	3 cache pits	N/A	Y	N		25 x 13	"	"
FlRu-17	CD	"	8 cache pits	N/A	Y	N		28 x 18	"	"
FlRu-18	CD	"	1 cache pit	N/A	Y	N		13 x 12	"	"
FlRu-19	CD	"	2 cache pits	N/A	Y	N		14 x 14	"	"

Page 20	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FlRu-20	CD	"	53 cache pits	N/A	Y	N		245 x 212	"	"
FlRu-21	CD	"	3 cache pits	N/A	Y	N		15 x 13	"	"
FlRu-22	CD	"	2 cache pits	N/A	Y	Y		16 x 16	"	"
FlRu-23	CD	"	1 cache pit	N/A	Y	N		12 x 12	"	"
FlRu-24	CD	"	1 cache pit	N/A	Y	Y		14 x 14	"	"
FlRu-25	CD	"	2 cache pits	N/A	Y	Y		20 x 13	"	"
FlRu-26	CD	"	36 cache pits	N/A	Y	N		143 x 133	N bank Nechako R, top of drainage bench	"
FlRu-27	CD	"	Poss. housepit	N/A	Y	N		15 x 15	Terrace n side of Nechako River	"
FlRu-28	CD	"	1 cache pit, 1 poss. housepit	N/A	Y	Y		40 x 15	N side of Nechako R on flat terrain	"
FlRu-29	CD	"	6 cache pits	N/A	Y	N		52 x 46	N side of Nechako R atop 5 m high terrace	"
FlRu-30	CD	"	1 cache pit	N/A	Y	N		18 x 16	N side of Nechako R nr terrace	"
FlRu-31	CD	"	34 cache pits	N/A	Y	N		112 x 86	N side of Nechako R on flat terrain	"
FlRu-32	CD	"	1 cache pit	N/A	Y	Y		14 x 14	N side of Nechako R nr terrace	"
FlRu-33	CD	"	1 cache pit	N/A	Y	N		13 x 13	N side of Nechako on small s-facing knoll	"
FlRu-34	CD	"	2 cache pits	N/A	Y	N		14 x 14	N side of Nechako R. on flat terrain	"
FlRu-35	CD	"	3 cache pits	N/A	Y	N		60 x 13	"	"
FlRu-36	CD	"	1 cache pit	N/A	Y	N		12 x 12	"	"
FlRu-37	CD	"	1 cache pit	N/A	Y	N		14 x 14	"	"
FlRu-38	CD	"	1 cache pit	N/A	Y	Y		14 x 14	N side Nechako on 5 m bench	"

Page 21	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
FlRu-39	CD	Surface	1 cache pit	N/A	Y	N		12 x 12	N side Nechako on flat terrain	2007-112
FlRu-40	CD	"	1 cache pit	N/A	Y	N		13 x 13	"	"
FlRu-41	CD	"	1 cache pit	N/A	Y	Y		13 x 13	"	"
FlRv-3	LS/CD	"	Flakes, FBR, ash, 10 cache or roasting pits	?	Y	N		110 x 65	NE side confluence of Stuart & Nechako rivers	1984-021
FlRv-18	CD	"	1 cache pit	N/A	Y	N		3 x 2	E side Stuart R, 5 m from river edge	"
FlRv-25	CD	"	6 cache pits	N/A	Y	N		65 x 20 est.	N bank Nechako R, 20 m from river	"
GaRo-1	LS	Surface subsurface	Faunal, lithic assemblage	Y	Y	Y-SDR		70 x 17 est.	West end of Eaglet Lk on Hay Ck (Giscome)	1973-030
GaRp-1	Trail	Surface	"Fraser River Trail"	N/A	Y	N		~1000 x 1	10 m above Fraser River	1999-211
GaRr-1	LS	"	"basalt proj. pts, scarapers"	?	Y	N		170 x 35	Nukko Lk, 3 m above water	1971-030
GaRr-2	LS	Subsurface	3 flakes	N	Y	Y		10 x 10	1-3 m high terrace above ck & wetland	2007-112
GaRr-3	IF	"	1 flake	Y	Y	Y		10 x 10	4 m high s-facing terrace above wetland	"
GaRs-1	LS	Surface subsurface	4 flakes (1 utilized)	Y-flakes N-util flk	Y	Y		65 x 45	s-facing terrace above wetland	2001-104
GaRt-1	LS	Surface	3 flks, corner-notched point	Y	Y	N		?	SE end Saxton Lake	1971-030
GaRt-2	LS	Subsurface	3 flakes	Y	Y	Y		10 x 10	75 m n of wetland complex.	2007-112
GaRt-3	CD	Surface	1 cache pit	N/A	Y	Y		12 x 12	Atop small hill betw. Wetland to N & Saxton Lk to S	"
GaRt-4	CD	"	1 cache pit	N/A	Y	Y		13 x 13	"	"
GaRt-5	CD	"	31 Cache Pits	n/a	Y	Y		115 X 70	Flat terrace 10-20 m above drainage	"

Page 22	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GaRt-6	IF	Subsurface	1 flake	Y	Y	Y		10 x 10	Flat terrace 5-8 m above wetland	"
GaRt-7	IF	Subsurface	1 flake	Y	Y	Y		10 x 10	3 m high terrace above wetland	2007-112
GaRt-8	CD	Surface	3 cache pits	N/A	Y	Y		22 x 17	Small terrace above seasonal drainage	"
GaRt-9	CD	"	2 cache pits	N/A	Y	Y		15 x 15	"	"
GaRt-10	LS	Subsurface	2 flakes	Y	Y	Y		10 x 10	On 1 m terrace above Flat Lk to east & wet-land to south	"
GaRt-11	IF	"	1 retouched flake	Y	Y	Y-minimal		10 x 10	1-2 m high terrace by seasonal drainage	"
GaRt-12	IF	"	1 flake	Y	Y	Y		10 x 10	On knoll above wetland 12 m to SE	"
GaRt-13	LS	"	22 flks (incl.14 obsidian), obs. Core, pt frag.	Y	Y	Y		40 x 33	Terrace edge above pond 20 m to S	2009-127
GaRu-1	LS	Surface	2 chipped tools, FCR	N	Y	N		20 x 6	N bank of Nechako, high ridge	1984-021
GaRu-2	LS	Subsurface	14 flakes, scraper	Y	Y	Y-minimal		10 x 10	Terrace above wetland to SW	2007-112
GaRu-3	CD	Surface	2 cache pits	N/A	Y	Y		15 x 10	On 2 m wide esker 1.5 m above Kaykay Lk	"
GaRv-3	LS?	?	?	?	Y-locatible	?		?	NE side confluence of Stuart & Mandalay	1951 Sewell.
GaRv-4	CD	Surface	3 cache pits	N/A	Y	N		7 x 3	N bank Nechako R, 15 m from edge	1984-021
GaRv-5	CD	"	1 rect. cache? Pit	N/A	Y	N		3 x 2	S bank Nechako R., 10 m from edge	"
GaRv-6	CD	"	96 cache pits	N/A	Y	N		200 x 50 est.	10 m above Stuart R on west side	"
GbRk-1	LS	"	1 flake, 1 point	Y	Y	N		~70 x 25	North shore Otter Lk	1976-007
GbRl-1	IF	"	"artifact"	Y?	Y	N		?	Bank above Hubble Ck	Non-permit

Page 23	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GbRp-1	Trail	"	Giscome Portage Trail	N	Y-designated	Y		? x 120	Summit Lk to Fraser River	2002-174
GbRp-2	Historic bldg	"	Huble House	N/A	N-municipl designation	N/A		?	Giscome Portage Regional Park	N/A
GbRp-3	Historic bldg	Surface	Giscome Port. Animal Shelter	N/A	N-municipl designation	N/A		?	Giscome Portage Regional Park	N/A
GbRp-4	Historic bldg	"	Salmon Valley Post Office	N/A	"	N/A		?	"	N/A
GbRp-5	CMT	"	97 B/S, 1 kindling tree	N/A	Y	Y (1837-1948)		800 x 300	aross drainage gully feeding Tay Ck to S	2002-050
GbRq-1	CMT/BS	"	40 B/S	N/A	Y	Y (1846-1894)		145 x 87	North side Salmon R	2006-112
GbRr-1	CMT/BS	"	6 B/S	N/A	Y	Y (1836-1851)		30 x 20	60 m from w side Merton CK	2005-052
GbRr-2	CMT/BS	"	1 B/S	N/A	Y	Y (1835)		20 x 20	75 m from w side Meron Ck	"
GbRr-3	CMT/BS	"	~30 B/S	N/A	Y	Y (1840-1905)		410 x 305	W side Alford Ck	2006-112
GbRs-1	LS	Subsurface	3 flakes, faunal, FCR	N	Y	Y		53 x 30	Point above w side of Hoodoo Ck	2004-033
GbRt-1	CD	Surface	8 cache pits	N/A	Y	Y		37 x 31	Flat terrain 52 m n of unnamed lake	2007-112
GbRt-2	LS	Subsurface	2 flakes	Y	Y	Y		17 x 15	Bench above wetland to S & E	2006-356
GbRt-3	IF	"	1 flake	Y	Y	Y		10 x 10	Terrace 25 m to n of unnamed lake	2007-112
GbRt-4	IF	"	1 retouched flk	Y	Y	Y		10 x 10	On s-facing terrace 1-3 m above wetland	"
GbRt-5	IF	"	1 flake	Y	Y	Y		10 x 10	10 m s of unnamed wetland	2009-127
GbRt-6	LS	"	2 flakes	Y	Y	Y		10 x 10	1.5 m high terrace above wetland to S	"

Page 24	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GbRu-1	LS	"	7 flakes	Y	Y	Y		27 x 6	On esker surrounded by low wet areas	2007-112
GbRu-2	IF	"	1 retouched flk	Y	Y	Y		10 x 10	On knoll on wetland terrace	"
GbRu-3	IF	"	1 scraper	Y	Y	Y		12 x 12	1.5 m high bench 3 m from wetland to S	2009-127
GbRv-1	LS	Surface	No description	N?	Y	N		?	N bank of Stuart R., s. of St. Maria Lake	Non-permit 1951
GcRj-1	IF	Surface	1 spall tool	N	Y	N		?	SE end Arctic Lk, n of feeding ck	1976-007
GcRj-2	CD	"	1 cache pit	N/A	Y	N		30 x 20	2 m bench,N shore of Pacific Lk	"
GcRj-3	LS	"	2 flks, 1 ret. flk., 1 scraper	N	Y	N		75 x 20	SE corner Arctic Lk 10 m from ck mouth	"
GcRj-4	LS	"	Unstated # of flakes	N	Y	N		?	N side Arctic Lk on alluvial fan	"
GcRj-5	IF	"	Battered cobble	N?	Y	N		40 x 10 est.	1 m from s shore Arctic Lake	1977-017
GcRk-1	LS	"	1 ret. flk., 1 bif. flkd obj.	N?	Y	N		20 x 10	NW shore Arctic Lk, on point	1976-007
GcRk-2	IF	"	1 scraper	N	Y	N		20 x 15	S side Arctic Lk, present day campsite	"
GcRk-3	IF	"	1 flake	N?	Y	N		25 x 10	S shore Arctic Lk	1977-017
GcRm-1	CMT/BS	"	1 B/S (spruce)	N/A	Y-germ. date adj tree=1790	N-dead		1 x 1	Undifferentiated terrain	2001-195
GcRp-1	LS	"	2 scrapers	Y	Y	N		40 x 12	E side small pond	2002-224
GcRp-2	IF	Subsurface	1 flake	N	Y	Y		20 x 15	2nd terrace e of small unnamed lk	2005-052
GcRq-1	LS	"	4 flakes	N	Y	Y		20 x 20	Terrace, s bank Dominion Lk	2004-033
GcRq-2	LS	"	2 flakes	Y	Y	Y		20 x 20	N bank Dominion Lk	"
GcRq-3	CD	Surface	4 cache pits	N/A	Y	Y		73 x 40	Bench 7-10 m above wetland to north	2007-112

Page 25	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GcRq-4	CD	"	2 cache pits	N/A	Y	Y		20 x 15	Bench 2 m above wetland to north	"
GcRq-5	CD	"	2 cache pits	N/A	Y	Y		20 x 15	Bench 20 m above wetland to north	"
GcRs-1	Historic	"	Dugout canoe	N	N-known historic use	N		?	N end Alder Lk. Con-structed after 1912	Non-permit
GcRs-2	IF	Subsurface	1 flake	N	Y	Y		30 x 20	Bank edge of wetland	2005-052
GcRs-3	CMT/BS	Surface	7 B/S	N/A	Y	Y (1845)		80 x 50	Muskeg R., terrace above west bank	2008-126
GcRs-4	LS	Subsurface	4 flakes	N	Y	Y		30 x 30	Muskeg R., knoll above east bank	"
GdRl-1	Historic bldg	Surface	Log cabin, axe marks	N	N	N		7 x 4	15 m terrace, n bank Parsnip River	1977-017
GdRl-2	Historic bldg	"	2 log cabins	N	N	N		7 x 3	2 m terrace, n bank Parsnip River	"
GdRl-3	Historic bldg	"	Log cabin	N	N	N		6 x 6	S bank Parsnip River	"
GdRm-1	Historic bldg	"	Log cabin	N	N	N		15 x 4	" eroded into r by '06	1977-017 2006-173
GdRm-2	Historic bldg	"	Log Cabin (& recent bldgs)	N	N	N		40x 20	N bank Parsnip River	1977-017
GdRm-3	Historic bldg	"	Log cabin	N	N	N		4 x 3.5	4 m from e bank Parsnip River	"
GdRm-4	CD	"	1 cache pit	N/A	Y	N		1 x 1	N bank Parnip River, 8 m terrace	"
GdRm-5	LS	Subsurface	6 flakes	Y	Y	Y		10 x 3	Terrace, e bank Parsnip River	2006-173
GdRq-1	LS	Surface	Flakes, obsid. artifact	Y-obsidian only	Y	N		?	E shore Davie Lake	1958 non-permit
GdRq-2	IF	Subsurface	1 ret. flake	N	Y	N		10 x 5	E shore Davie Lk, beach gravel	1997-125
GdRq-3	CMT/BS	Surface	Est. 145 B/S	N/A	Y-stand age	N-all dead		490x 460 est.	E side Crooked River	2009-138

Page 26	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GdRq-4	CMT/BS	"	Est 1424 B/S	N/A	Y- stand age	Y-most dead		775 x 500 est.	"	"
GdRr-1	CMT/BS	"	183 B/S	N/A	Y	Y (1837-1905)	Y (90% reserved)	1300 x 1000	N side Peculiar Lake	2005-052 2005-372
GdRr-2	IF	Subsurface	1 flake	N	Y	Y		13 x 13	Terrace, e side of ck to Peculiar Lake	2006-112
GdRs-1	LS/CMT/CD	Surface subsurface	Flk, burnt bone, 6 B/S,28 cache pits	Y	Y	Y/Y (1893 - 1914)		320 x 210	W side large wetland	2003-023
GdRs-2	LS/CMT	"	2 flks, 20+ B/S log cabin	N	Y-lithics	Y/Y (1864 – 1978)		170 x 40	Terrace, n side large wetland	"
GdRs-3	CD	Surface	1 cache pit	N/A	Y	N		5 x 5		"
GdRs-4	Trail	"	No description	N/A	Y	N		?	Orig. part of GdRs 1	"
GdRs-5	LS	subsurface	11 flks, 100+ burnt bone	N	Y	Y		56 x 43	SW end Tyee Lk by outlet creek	2005-052
GdRs-6	LS	Subsurface	2 flakes	N	Y	Y		20 x 20	Point, n shore of wetland	"
GdRs-7	CMT/BS	Surface	1 B/S	N/A	Y	Y (1839)		20 x 20	N shore near w end unnamed lake	2006-112
GdRs-8	CD	"	4 cache pits	N/A	Y	N		80 x 40		2007-087
GdRs-9	CD	"	1 cache pit	N/A	Y	N		20 x 25	Bench above wetland	2008-126
GdRt-1	CD/trail	"	10 cache pits, blazed trail	N/A	Y (cache pits)	Y		75 x 50	W side unnamed feeder creek	1998-074
GdRt-2	CMT/BS	"	4 B/S	N/A	N	N		50 x 10	"	"
GdRt-3	CMT/BS	"	18 B/S	N/A	N	Y (1874-1973)		67 x 45	Muskeg R., w bank	"
GdRt-4	CMT/BS	"	3 B/S	N/A	N	Y (1896)		13 x 6	"	"
GdRt-6	CD/IF	Surface/ subsurface	5 cache pits, 1 flake	N	Y	Y		40 x 30		2008-126
GdRu-1	CD	Surface	2 cache pits	N/A	Y	Y		20 x 10	Atop high esker	2001-195
GdRw-1	Trail	"	Stuart Lk-McLeod Lk Pack Trail	N/A	Y	N		5100 x 30	E side Salmon R, w several blazed/ chopped trees	1997-253

Page 27	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GdRw-3	CMT/BS	"	3 B/S	N/A	N	N		25 x 25	W facing terrace above Salmon River	"
GdRw-4	CMT/BS	"	8 B/S	N/A	Y	Y (1841-1874)		80 x 30	N-S terrace above Salmon R to west	"
GdRw-5	IF	Subsurface	1 flake	Y	Y	Y		5 x 5	W facing terrace above Salmon River	"
GdRw-6	CMT/BS	Surface	22 B/S	N/A	N	Y (1880-1904)		120 x 90	On e-W terrace above Salmon R to south	"
GdRw-7	CMT/BS	"	3 B/S	N/A	N	Y (1878)		15 x 10	Small high SE facing terrace	"
GdRw-8	CMT/BS	"	15 B/S	N/A	N	Y (1882-1902)		13 x 90	E facing ck terrace & SW facing river terr.	"
GeRo-1	Hstoric bldg	Surface	Log cabin	N	N	N		5 x 3	N bank Parsnip R	1977-017
GeRo-2	CMT/BS	"	56 B/S	N/A	Y	Y (1832-1882)		404 x 233	S bank Tacheeda Ck	2004-033
GeRp-1	LS	"	Scrapers, ret. flks, point, 75 flakes	Y-1976, 2007	Y	N		60 x 30	Parks site between the 2 Tacheeda Lakes	1971-030 1976-004 2007-123
GeRp-2	LS	Surface subsurface	Core, several bifaces, points, 56 flakes	Y/N-1976 Y-2007	Y	Y- 2007 – minimal		360 x 60	Tacheeda Lk, both sides Tacheeda Creek	" " "
GeRp-4	LS	Surface	Flakes	N	Y	N		?	south Tacheeda Lake, NE corner	1976-004
GeRp-5	CD	"	1 cache pit	N/A	Y	Y		13 x 13	NW side n Tacheeda Lake, 4 m high SW facing bank	2006-113
GeRp-6	CD	"	1 cache pit	N/A	Y	Y		13 x 13	NW side n Tacheeda Lake	"
GeRp-7	CD	"	1 cache pit	N/A	Y	Y		13 x 13	NW side n Tacheeda Lk, 4 m high w-facing knoll	"
GeRp-8	IF	"	1 uniface	Y	Y	N		20 x 20	S end n Tacheeda Lk, edge of point	2007-123
GeRp-9	LS	Subsurface	4 flks, 1 core	Y	Y	Y		35 x 15	N end s Tacheeda Lk, bench facing south	"

Page 28	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GeRp-10	IF	"	I flake	Y	Y	Y		30 x 20	NE end s Tacheeda Lk,high narrow ridge	"
GeRs-1	CMT/BS	Surface	23 B/S	N/A	Y	Y (1838-1907)		300 x 75	High terrace north armWeedon Lk, NW shore	2002-050
GeRs-2	IF	Subsurface	Proj. pt base	Y	Y	Y		10 x 10	"	"
GeRs-3	CMT/BS	Surface	7 B/S	N/A	Y	Y (1830-1843)		100 x 50	On w-facing ridge	"
GeRs-4	LS	Subsurface	Undescribed lithics	Y	Y	Y		23 x 2	Terrace, e side of unnamed lake	2008-353
GeRs-5	CMT/BS	Surface	22 B/S	N/A	Y	Y (1845-1932)		800 x 100	Esker on w side of Weedon Creek	2009-145
GeRt-1	LS/CD	Surface	9 cache pits, obsid. flk, faunal	Y	Y	N		200 x 10	N end Carp Lk, west side river outlet	1974-001
GeRt-2	CD	"	4 cache pits	N/A	Y	N		?	N end Carp Lk, east side river outlet	"
GeRt-3	CD	"	4 cache pits	N/A	Y	N		?	E side Carp Lk, south of feeder ck	"
GeRt-4	CD	"	5 cache pits	N/A	Y	N		?	E side Carp Lk, N side of poiny	"
GeRt-5	CD	"	12 cache pits	N/A	Y	N		10 x 10	E side Carp Lake, s side of point	"
GeRt-6	CD	"	6 cache pits	N/A	Y	N		20 x 10	E side Carp Lk, n side large peninsula	"
GeRt-7	CD	"	5 cache pits	N/A	Y	N		50 x 10	E side Carp Lk, s side large peninsula	"
GeRt-8	CD	"	2 cache pits	N/A	Y	N		20 x 10	"	"
GeRt-9	CD	"	50 cache pits	N/A	Y	N		?	N end Carp Lk, entire circumf. large island	"
GeRt-10	CD	"	? cache pits	N/A	Y	N		?	N end Carp Lk, entire isl. n of GeRt 9 island	"
GeRt-11	CD	"	1 cache pit	N/A	Y	N		2 x 2	500 m n of Carp Lk, e side of river	1974-001 1977-018

Page 29	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GeRt-12	CD	"	4 cache pits	N/A	Y	N		15 x 15	650 m n of Carp Lk, e side of river	"
GeRt-13	CD	"	11 cache pits	N/A	Y	N		100 x 50	NW corner Carp Lk, N-S ridge n of river/lk confluence	"
GeRt-14	CD	"	1 cache pit	N/A	Y	N		2 x 1	1700 m n of Carp Lk, 5 m ridge e side river	"
GeRt-15	CD	"	1 cache pit	N/A	Y	N		2 x 2	1850 m n of Carp Lk, 5 m ridge e side river	"
GeRt-16	CD	"	2 cache pits	N/A	Y	N		20 x 5	W side river opposite GeRt 1	"
GeRu-1	CD	"	? cache pits	N/A	Y	N		?	N end Carp Lk, entire point on e side of bay	1974-001
GeRu-2	CD	"	2 cache pits, house platfm?	N/A	Y	N		?	N end Carp Lk, e side of northern bay	"
GeRu-3	CD	Surface	4 cache pits	N/A	Y	N		?	N end Carp Lk on pt.	1974-001
GeRu-4	CD	"	4 cache pits	N/A	Y	N		?	N end Carp Lk, on 4 m high ridge	"
GeRu-5	CD	"	2 cache pits	N/A	Y	N		?	N end Carp Lk	"
GeRu-6	CD	"	8 cache pits	N/A	Y	N		?	N end small island @ n end Carp Lk	"
GeRu-7	CD	"	18 cache pits	N/A	Y	N		40 x 30	"	"
GeRu-8	CD	"	26 cache pits	N/A	Y	N		150 x 50	Most of most norther-ly island in Carp Lk	"
GeRu-9	CD	"	2 cache pits	N/A	Y	N		20 x 2	Carp Lk, e side of s jutting peninsula	"
GeRu-10	CD/CMT	"	3 cache pits, 1-3 hse platfrms 3 adzed canoes	N/A	N (reserve)	N		500 x 20	Carp Lk, s end of large peninsula	"
GeRu-11	CD	"	5 cache pits	N/A	Y	N		20 x 20	Carp Lk, s side of large w-jutting penin.	"
GeRu-12	General Activity	Surface subsurface	4 CDs, 2 poss. hse platforms, cairn, lithics, trail	Y-2006	N (reserve)	Y-2006		100 x 80	W side Carp Lk, s shore facing GeRu 10	1974-001 2006-237
GeRu-13	CD?	Surface	1 depression?	N/A	Y	N		3 x 2.5	W side of Carp Lk	1974-001

Page 30	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GeRu-14	CD	"	2 cache pits	N/A	Y	N		?	Carp Lk – on north facing shore	"
GeRu-15	CD	"	10 cache pits	N/A	Y	N		300 x 15	W side Carp Lk, NE end of E-W peninsula	"
GeRu-16	CD	"	20 cache pits	N/A	Y	N		30 x 20	W side Carp Lk, s 1/3 of small island	"
GeRu-17	CD	"	3 cache pits	N/A	Y	N		50 x 30	W side Carp Lk, SE end of E-W peninsula	"
GeRu-18	CD	"	1 cache pit	N/A	Y	N		5 x 5	W side of Carp Lk, terrace on blazed trail	"
GeRu-19	CD	"	1 cache pit	N/A	Y	N		2 x 1	"	"
GeRu-20	CD	"	3 cache pits	N/A	Y	N		40 x 30	"	"
GeRu-21	CD	Surface	5 cache pits	N/A	Y	N		80 x 30	W side Carp Lk, terr. on blazed trail. Both sides creek	1974-001
GeRu-22	CD	"	1 cache pit	N/A	Y	N		2 x 1	W side of Carp Lk	"
GeRu-23	CD	"	1 cache pit	N/A	Y	N		2 x 1	W side of Carp Lk on terrace	"
GeRu-24	CD	"	1 cache pit	N/A	Y	N		2 x 1	W of trail on w side of Carp Lk	"
GeRu-25	CD	"	1 cache pit	N/A	Y	N		2 x 1	"	"
GeRu-26	CD	"	2 cache pits	N/A	Y	N		10 x 10	"	"
GeRu-27	CD	"	2 cache pits	N/A	Y	N		10 x 10	W side Carp Lk, n of creek	"
GeRu-28	CD	"	5 cache pits	N/A	Y	N		60 x 25	W side Carp Lk, s of creek	"
GeRu-29	CD	"	3 cache pits	N/A	Y	N		200 x 20	Low terrace w side Carp Lake	"
GeRu-30	CD	"	4 cache pits	N/A	Y	N		25 x 10	"	"
GeRu-31	CD	"	4 cache pits	N/A	Y	N		20 x 20	SW side Carp Lk, high moraine	"
GeRu-32	CD	"	4 cache pits	N/A	Y	N		20 x 20	N end Carp Lk, w side north-jutting bay	"
GeRu-33	CD	"	N/A	N/A	N/A	N/A		N/A	N end Carp Lk, on large island	"
GeRu-34	CD	"	2 cache pits	N/A	Y	N		?	N end Carp Lk, n end of large island	"
GeRu-35	CD	"	1 cache pit	N/A	Y	N		2 x 2	2 m above n end Carp Lake	1974-001 1977-018

Page 31	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GeRu-36	CD	"	1 cache pit	N/A	Y	N		1 x 1	7 m above n end Carp Lake	"
GeRu-37	CD	"	1 cache pit	N/A	Y	N		2 x 2	N end Carp Lk, 12 m above lk on NW side large island	"
GeRu-38	CD	"	1 cache pit	N/A	Y	N		2 x 2	N end Carp Lk, 4 m above lk on NW side large island	"
GeRu-39	CD	Surface	1 cache pit	N/A	Y	N		1 x 1	Lge isl. N end Carp Lk, nw side,5-8 m up	1974-001 1977-018
GeRu-40	CD	"	1 cache pit	N/A	Y	N		1 x 1	" " nw side, 4 m terrace	"
GeRu-41	CD	"	4 cache pits	N/A	Y	N		25 x 15	" " n centre area,12-15 m	"
GeRu-42	CD	"	1 cache pit	N/A	Y	N		1 x 1	" " n end, 18 m terrace	"
GeRu-43	CD	"	1 cache pit	N/A	Y	N		18 x 5	" " e side, 5 m rise	"
GeRu-44	CD	"	1 cache pit	N/A	Y	N		2 x 2	" " e side 3-5 m rise	"
GeRu-45	CD	"	1 cache pit	N/A	Y	N		1 x 1	" " e side, 5 m rise	"
GeRu-46	CD	"	1 cache pit	N/A	Y	N		1 x 1	" " SE end, 3-4 m rise	"
GeRu-47	CD	"	29 cache pits	N/A	Y	N		50 x 2	" " SE end, 5-6 m ridge	"
GeRu-48	CD	"	1 cache pit	N/A	Y	N		1 x 1	" " s end, 10 m ridge	"
GeRu-49	CD	"	8 cache pits	N/A	Y	N		30 x 20	" " s central part,12 m up	"
GeRu-50	CD	"	21 cache pits	N/A	Y	N		50 x 30	" " s centr., 5 m on ridge	"
GeRu-51	CD	"	4 cache pits	N/A	Y	N		15 x 15	" " SE end, 5-8 m up	"
GeRu-52	CD	"	5 cache pits	N/A	Y	N		12 x 6	" " e side knoll, 7 m up	"
GeRu-53	CD	"	11 cache pits	N/A	Y	N		50 x 25	" " w side on n-facing shore, 2 m up	"

Page 32	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GeRu-54	CD	"	3 cache pits	N/A	Y	N		20 x 15	" " w centre area s of swamp, 8 m up	"
GeRu-55	CD	"	4 cache pits	N/A	Y	N		20 x 7	" " w side,,head of bay, 5 m up	"
GeRu-56	CD	Surface	7 cache pits	N/A	Y	N		40 x 15	Lge isl. N end Carp Lk, nw side,knoll, 15 m up	1974-001 1977-018
GeRu-57	CD	"	3 cache pits	N/A	Y	N		20 x 5	" " centre part, 12 m up	"
GeRu-58	CD	"	5 cache pits	N/A	Y	N		25 x 5	" " w centre part,12 m up	"
GeRu-59	CD	"	1 cache pit	N/A	Y	N		1 x 1	W shore Carp Lk, 4 m up,nr FSJ-McLeod Lk Trail	"
GeRu-60	CD	"	1 cache pit	N/A	Y	N		2 x 2	W shore Carp Lk, 4-5 m up, e of trail	"
GeRu-61	CD	"	1 cache pit	N/A	Y	N		1 x 1	NW end Carp Lk, n side of feeder ck	"
GeRu-62	CD	"	1 cache pit	N/A	Y	N		1 x 1	NW end Carp Lk, s end of slough 12-14 m elevation	"
GeRu-63	CD	"	1 cache pit	N/A	Y	N		2 x 2	NW end Carp Lk, 4 m elevation	"
GeRu-64	CMT/AL	"	Adzed & burnt log	N/A	Y	N		4.3 x ?	NW end Carp Lk, on FSJ-McLeod Lk Trail	"
GeRu-65	CMT/AL	"	3 adzed & burnt logs	N/A	Y	N		15 x 5	"	"
GeRu-66	CD	"	2 cache pits	N/A	Y	N		15 x 5	NW end Carp Lk, s side ck 4-5 m elev.	"
GeRu-67	CD	"	2 cache pits	N/A	Y	N		20 x 5	" " s side ck 4 m elev.	"
GeRu-68	CMT	"	Several standg & fallen B/S, 1 canoe section	N/A	Y	N		125 x 75	" " on high ridge 25 m up	"
GeRu-69	CD	"	2 cache pits	N/A	Y	N		8 x 2	" " on knoll 40 m elev.	"
GeRu-70	CD	"	2 cache pits	N/A	Y	N		10 x 4	" " on ridge 15 m up	"
GeRu-71	CD	"	1 cache pit	N/A	Y	N		2 x 2	"	"

Page 33	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GeRu-72	CD	Surface	2 cache pits	N/A	Y	N		15 x 5	Carp Lk, SW side, n-facing point, 5-6 m up	1974-001 1977-018
GeRu-73	CD	"	67 cache pits	N/A	Y	N		155 x 65	W side Carp Lk, all of small isl. 3-4 m up	"
GeRu-74	CD	"	2 cache pits	N/A	Y	N		40 x 10	" " e side encl. bay, 3-4 m elev.	"
GeRu-75	CD	"	8 cache pits	N/A	Y	N		30 x 20	" " " 4-5 m elev	"
GeRu-76	CD	"	2 cache pits	N/A	Y	N		8 x 6	" " " 12 m elev	"
GeRu-77	CD	"	1 cache pit	N/A	Y	N		2 x 2	" " " 5 m elev	"
GeRu 78	CD	"	2 cache pits	N/A	Y	N		16 x 10	" " " high ridge-17 m	"
GeRu 79	CD	"	3 cache pits	N/A	Y	N		40 x 25	" " " ridge 12 m up	"
GeRu-80	CD	"	2 cache pits	N/A	Y	N		6 x 4	" " SW side peninsula 27 m elevation	"
GeRu-81	CD	"	1 cache pit	N/A	Y	N		1 x 1	" " w-facing pt,13 m elev	"
GeRu-82	CD	"	3 cache pits	N/A	Y	N		25 x 10	" " " 9 m elev	"
GeRu-83	CD	"	2 cache pits	N/A	Y	N		4 x 2	" " " 13 m elev	"
GeRu-84	CD	"	1 cache pit	N/A	Y	N		2 x 2	" " e side encl. bay, 3 m elev.	"
GeRu-85	CD	"	1 cache pit	N/A	Y	N		1 x 1	" " " 7 m elev	"
GeRu-86	CD	"	3 cache pits	N/A	Y	N		5 x 2	" " " ridge 30 m elev	"
GeRu-87	CD	"	1 cache pit	N/A	Y	N		1 x 1	" " " ridge 24 m elev	"

Page 34	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GeRu-88	CD	Surface	1 cache pit	N/A	Y	N		1 x 1	W side Carp Lk, east side encl. bay, ridge 18 m up	1974-001 1977-018
GeRu 89	CD	"	2 cache pits	N/A	Y	N		10 x 2	W side Carp Lk, cent part of peninsula, 37 m high ridge	"
GeRu 90	CD	"	2 cache pits	N/A	Y	N		8 x 4	W side Carp Lk, west side of peninsula, on ridge 24 m up	"
GeRu-91	CD	"	4 cache pits	N/A	Y	N		12 x 7	W side Carp Lk, s tip of ridge 33 m elev	"
GeRu-92	CD	"	22 cache pits	N/A	Y	N		100 x 25	W side Carp Lk, w side of peninsula on ridge 11 m up	"
GeRu-93	CD	"	16 cache pits	N/A	Y	N		125 x 25	W side Carp Lk, s tip of peninsula 6 m up	"
GeRu-94	CD	"	7 cache pits	N/A	Y	N		50 x 30	W side Carp Lk, w side peninsula 6 m up	"
GeRu-95	CD	"	1 cache pit	N/A	Y	N		2 x 2	W side Carp Lk,cent. of peninsula in draw 4 m up	"
GeRu-96	CD	"	6 cache pits	N/A	Y	N		50 x 20	W side Carp Lk, w side of peninsula, on ridge 6 m up	"
GeRu-97	CD	"	1 cache pit	N/A	Y	N		2 x 2	W side Carp Lk, w side of encl.bay on point 7 m up	"
GeRu 98	CD	"	5 cache pits	N/A	Y	N		15 x 10	W side Carp Lk, w side peninsula 6 m up	"
GeRu-99	CD	"	4 cache pits	N/A	Y	N		40 x 15	W side Carp Lk, w side peninsula sw of swamp 4 m elev.	"
GeRu-100	CD	"	1 cache pits	N/A	Y	N		2 x 2	W side Carp Lk,e side peninsula on ridge 7 m up	"
GeRu-101	CD	"	14+ cache pits, FCR	N/A	Y	N		100 x 75	Carp Lk, s end Birch Island, ridge 6-9 up	"
GeRu-102	CD	Surface	2 cache pits	N/A	Y	N		20 x 5	N end Carp Lk,sw facing ridge on lge isl @ 15 m elev.	1974-001 1977-018
GeRu-103	CD	"	6 cache pits	N/A	Y	N		30 x 5	Carp Lk, w side Birch Is.,ridge 9 m up	"
GeRu-104	CD	"	3 cache pits	N/A	Y	N		20 x 15	W side Carp Lk,n end of encl bay,ridge 25 m up	"
GeRu-105	CD	"	4 cache pits	N/A	Y	N		40 x 40	W side Carp Lk, 5m up on isthmus joining 2 peninsulas	"

Page 35	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GeRu-106	CD	"	6 cache pits	N/A	Y	N		70 x 20	W side Carp Lk,n end of encl bay, 2 m up	"
GeRu-107	CD	"	4 cache pits	N/A	Y	N		15 x 5	N end Carp Lk,s side lge is., ridge 10 m up	"
GeRu-108	CD	"	5 cache pits	N/A	Y	N		15 x 10	N end Carp Lk, south side lge island, ridge 12-15 m up	"
GeRu-109	CD	"	1 rect. depress-sion-cache pit?	N	Y	Y		2 x 1	Carp Lk, north. end	1978-007
GeRu-110	CD	"	7 cache pits	N	N	Y-minimal		65 x 30	W side Carp Lk, w of IR 3 on high terrace	2006-237
GeRu-111	CD	"	1 cache pit	N/A	Y	N		2 x 2	W side Carp Lk ,west shore Drumlin Bay,1st terrace	"
GeRu-112	CD	"	4 cache pits	N/A	Y	N		170 x 30	W side Carp Lk, 300 m inland	"
GeRu-113	Trail	"	Duzcho Trail	N/A	Y	N		7400 x 5	From entrance to Sekani Bay SW to W edge of Carp Lk P Pk	"
GeRu-114	CD	"	1 cache pit	N/A	Y	N		5 x 5	W side Carp Lk 150 m from lake	"
GeRv-1	CMT/BS	"	2 B/S	N/A	Y	Y (1817)		50 x 20	W side unnamed lk NW of Clarston Lk	1997-195
GeRv-2	CMT/BS	"	105 B/S	N/A	N	Y (1902-1940)		1800 x 80	6 km SW of Carp Lk, assoc. w/ Duzcho Tr.	1999-043
GeRv-3	Trail	Surface	Duzcho Trail section	N/A	Y	N		1800 x 50	6 km SW of Carp Lk, assoc. w/ GeRv 2	1999-043
GfRp-1	CD	"	1 cache pit	N/A	Y	N		1 x 1	E bank Parsnip R, 10 m terrace	1977-017
GfRp-2	Historic structure	"	Log bear trap?	N/A	N	N		2 x 2	E bank Parsnip R	"
GfRp-3	Historic bldg	"	2 log cabins	N/A	N	N		10 x 10	NE bank Parsnip R	"
GfRq-1	CD	"	2 cache pits	N/A	Y	N		8 x 3	SW bank Parsnip R, 15 m terrace	"
GfRq-2	Trail	"	Isadore Trail	N/A	Y-FN informant	N		?	SW along Isadore Ck from SW bank Parsnip River	"
GfRq-3	CMT	"	57 B/S, blazes, kindling, trap-trees	N/A	N	Y (1867-1929)		450 x 60	CMTs assoc. w/ GfRq 2-Isadore Trail	1998-074 1999-043

Page 36	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GfRr-1	Legacy	"	"basalt knife"	?	N-legacied, anecdotal	N		?	East side Mcleod Lk	Non-permit
GfRr-2	LS	Surface subsurface	"Murray Site" incl SN point, microblade (obs.),scrapers, ret flks, flakes	Y	Y	Y		100 x 40	E side McLeod Lk, 4 m terrace, north side of IR 5	1999-042
GfRr-3	CMT/BS	Surface	3 B/S	N/A	N	N (1894-1904)		20 x 20	Isadore Ck ~3 km sw of Parsnip River	1997-106
GfRr-5	CMT/BS	"	3 B/S	N/A	N	Y (1861, 1879)		75 x 75	Isadore Ck, 6.5 km from Parsnip River	1999-043
GfRr-6	CMT	"	17 B/S, blazes, kindling trees	N/A	N	Y (1862-1882)		270 x 180	" Opposite side of ck	"
GfRs-1	LS?	"	No description	?	Y	N		?	N end McLeod Lk, east shore	Non-permit
GfRs-2	Historic fort	Surface subsurface	Fort McLeod Trading Post- hist. artifacts, depressions, mounds, rock alignments	Y (1986)	Y	Y-1986		?	N end McLeod Lk, west shore	1986-029
GfRs-3	CMT/BS	Surface	7 B/S	N/A	N	Y (1874-1895_		100 x 50	West of McLeod Lk	1999-043
GfRs-4	LS	subsurface	11 flakes	Y	N-reserve	Y		8 x 5	W side McLeod Lk, S end IR 1, low terr.	1999-200
GfRs-5	LS	Surface subsurface	1 side notch pt, 1 ret. flk, 1 flk	Y	Y	Y		5 x 5	NE shore Warburton Lk, low terrace	1999-200
GfRs-6	LS	Surface	Scraper, 6 flks	Y	Y	Y		25 x 5	N end McLeod Lk, e side of river	"
GfRs-7	LS	Subsurface	2 flakes	Y	Y	Y		25 x 20	7 km sw of McLeod Lk, on ridge above ck to east	2008-353
GfRt-1	CD/IF	Surface	8 cache pits, 1 flake	Y	Y	N		50 x 50	N end of War Lake	1974-001
GfRt-2	CMT/BS	"	3 B/S	N/A	N	Y (1856-1896)		50 x 30	North of War Lake	1999-043
GfRt-3	CMT/BS	"	6 B/S	N/A	N	Y (1861-1896)		30 x 25	NW of War Lake	"
GfRt-4	CMT/BS	"	31 B/S	N/A	Y	Y (1824-1951)		170 x 100	North of War Lake	"

Page 37	Site Type	Surface or Subsurface	Site Comments	Artifacts Collected?	Protected (HCA)?	Tested/ Cored?	Alteration Permit?	L/W (m)	Location	Permit #s
GfRt-5	CMT/BS	"	4 B/S	N/A	? dead	N		50 x 20	North of War Lake	"
GfRt-6	CMT/BS	"	8 B/S	N/A	Y	Y (1812-1874)		150 x 40	North of War Lake	"
GfRt-7	CMT/BS	"	4 B/S	N/A	Y	Y (1829)		60 x 30	N of War Lk, 200 m w of McLeod River	2002-050
GfRt-8	CMT/BS	"	1 B/S	N/A	Y	Y (~1817)		5 x 5	"	"
GfRu-1	CMT/BS	"	7 B/S	N/A	Y	Y (1831-1895)	Y	110 x 90	5 km w of War Lake	2001-104 2002-113
GfRu-2	CMT/BS	"	18 B/S	N/A	Y	Y (1815-1893)	Y	130 x 120	"	"
GfRu-3	LS	Subsurface	1 scraper, 1 flk	Y-scraper	Y	Y		30 x 20	On point on N side of unnamed lake	2001-104
GgRq-1	Trail	surface	Isadore Trail	N/A	Y	Y			Section fr. Colbourne Ck s to w side unnamed lake. NW side Parsnip R (opposite to GfRq 2)	2009-138

Glossary:

HCA = *Heritage Conservation Act*
AMHT = Alexander Mackenzie Heritage Trail
BR = Blackwater River

Site Type:

LS = lithic scatter
IF = isolated find
CD = cultural depression
CMT = culturally modified tree.
B/S = bark stripped
A/L = aboriginally logged
TU= traditional use site
Legacy = site determined by the Archaeology Branch as non-cultural, not locatable, unprotected by HCA and/or of insufficient interest or significance to warrant documentation. In this document the term has been only used to denote sites considered non-cultural or not locatable due to poor locational (i.e. anecdotal) site form information or actual site re-visits which have been unable to confirm site presence.