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REPORT OF THE BOUNDARY



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PHASE I

REPORT OF THE BOUNDARY ARCHAEOLOGICAL SURVEY

SEPTEMBER 25, 1978 - JUNE 1, 1979

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by

Michael A. Freisinger



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ABSTRACT

The Kettle River drainage area lies within an ethnographic and archaeological peripheral area between the Columbia River and Okanagan River within South Central British Columbia. Recent systematic archaeological survey investigations of the area reveals a premature insight into the archaeological resources and ethnohistory of this previously unknown region. A total of fifty-nine sites have been examined and recorded to determine the nature of prehistoric settlement pattern and to facilitate the archaeological resource management within the area.

An archaeological salvage of a unique archaeological site (DgQn 10) was carried out, salvaging a historical wooden dugout canoe from the depths of the Kettle River. The canoe was submerged in river sediments on a prepared canoe skid, which was exposed and in the process of eroding away. The dugout canoe was safely recovered and treated with polyethylene glycol in a large water holding tank.

An extensive bibliography of ethnographic, historic and archaeological data pertaining to the area has been researched and is included within this report. Numerous unpublished manuscripts, maps and some photographs were obtained revealing native place names, fishing activities and mythologies.

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GEOGRAPHICAL SETTING

The area of research interest lies within the Monashee Mountain Range in South Central British Columbia and is transected by the Kettle River, Granby River, and Christina Lake. The latter two are tributaries of the former which flows south and joins the Columbia River system just south of the Canadian, United States Border in Washington State. The Kettle and Granby River systems are fed by a multitude of small tributaries with the exception of a few larger tributaries: Burrell Creek, Boundary Creek and Christina Creek. The two river valleys lie within the Ponderosa Pine-Bunchgrass Biogeoclimatic Zone at vertical elevations from 1500 feet to 2100 feet. At the branch of the West Kettle and Kettle River at Westbridge the river valley is within the Interior Douglas Fir Zone. This zone is characteristic of the upland areas above the Ponderosa Pine-Bunchgrass Zone along the Kettle River. The upland montane areas above the main river and creek valley systems at elevation 3000 feet or greater lie within the Interior Douglas Fir zone. Above this zone at elevation 4000 feet lies the Subalpine Engelmann Spruce-Subalpine Fir zone.

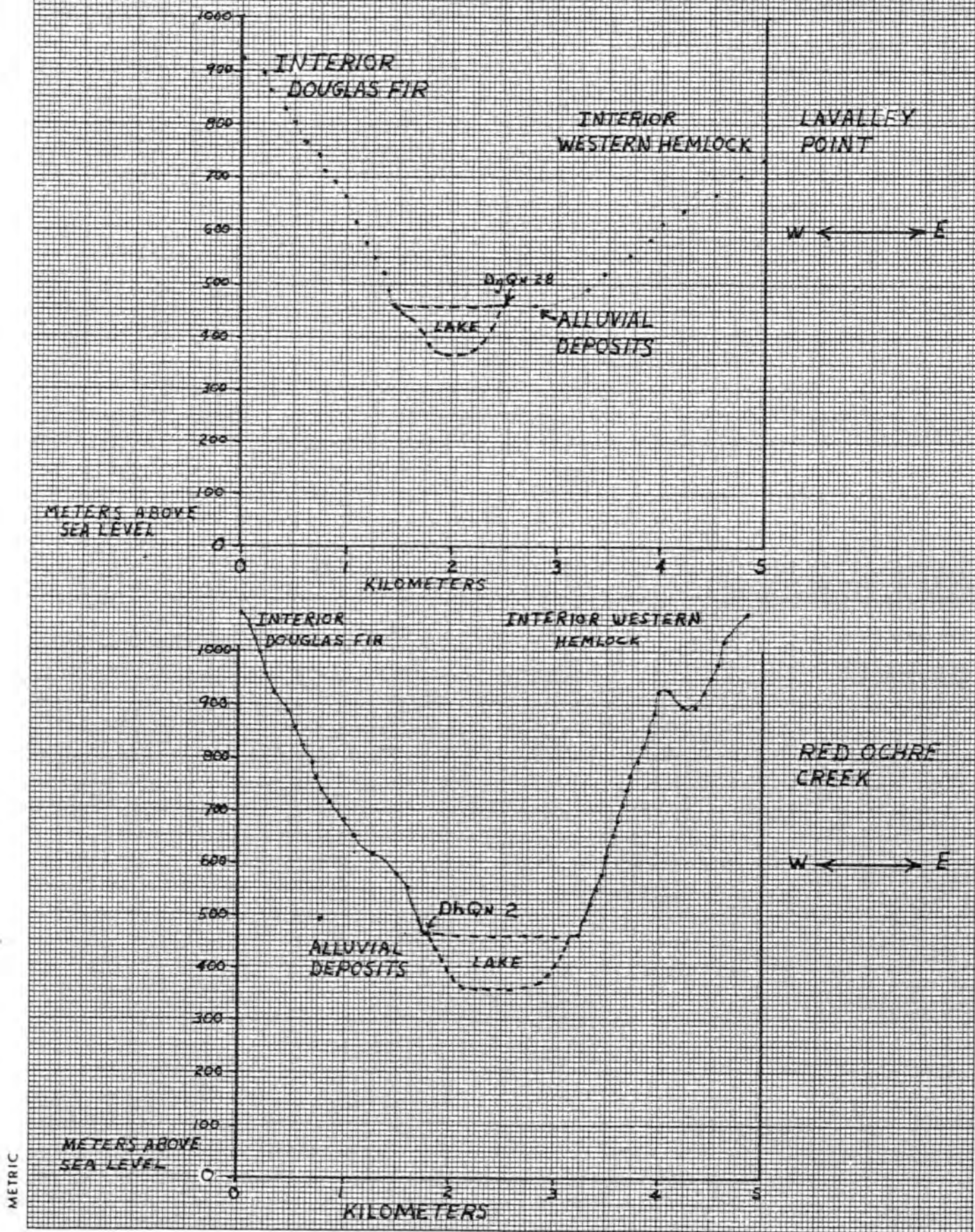
Christina Lake is situated in a steep sided narrow valley with mountains ascending steeply down to the shore of the lake. The lake for its size has remarkably few tributaries; mostly it is fed by small streams and artesian springs. The main tributaries of the lake are Sandner Creek, Troy Creek (at the north end of the lake), Texas Creek, Macre Creek, and Sutherland Creek. At the confluence of the latter three creeks with the lake along the east side alluvial fans have been formed resulting in level areas of deposition along the shore.

Two separate biogeoclimatic zones separate Christina Lake on the east and west side on a north-south axis. The east side of the lake is within the Interior Western Hemlock zone, whereas the west side is within the Interior Douglas Fir zone (see fig. 1). Both of these zones meet at the north end of the lake and at the south end of the lake. At the north end the two zones meet with the Subalpine Engelmann Spruce-Subalpine Fir zone at higher elevations (3500 feet). At the southern end of Christina Lake the two zones meet with the Ponderosa Pine-Bunchgrass zone near Cascade Canyon at 1500 feet elevation.

The Cascade Canyon area represents a transitional zone of three different Biogeoclimatic zones; Interior Western Hemlock, Interior Douglas Fir, and Ponderosa Pine-Bunchgrass. This area also possesses the highest concentration of archaeological resources.

Fig. 1

CHRISTINA LAKE TOPOGRAPHIC CROSS-SECTION AND BIOGEOCLIMATIC DATA



METRIC

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS WITHIN THE AREA

Prior to the Fall of 1978 archaeological investigations within the Kettle drainage area have been sparse and of minor duration. Before qualified archaeologists began their investigations within the area there were three sites (Dg Qo1, Dg Qo 2, and Dg Qn 3) which were disturbed and excavated by amateurs. Dg Qo 1 and Dg Qo 2 were two burial sites which yielded a large quantity of artifacts. Dg Qo 2 throughout the last thirty years was disturbed and eventually destroyed yielding the skeletal remains of twenty individuals (some of which are presently in the British Columbia Provincial Museum).

In 1965 Bill Barlee excavated a burial site (Dg Qo 1) just outside of Grand Forks, B.C. recovering two flexed burials with stone coverings (Petroform). The site yielded a large quantity of dentalia shell (1,742 pieces) two adze fragments, two chipped scrapers, one incised soapstone pipestem, red ochre, and a wooden bracelet fragment. In 1976 the author and Gerry Roberts salvaged a burial at the same site recovering fragmentary remains of two individuals and no artifacts. In 1976 a B.C. Hydro Right-of-Way Archaeological Survey conducted a survey along the Right-of-Way area from Christina Lake through Rock Creek area. One site was recorded at Cascade Canyon (Dg Qn H5) and sixteen sites were recorded within the Rock Creek area along the Kettle River (Roberts, 1976).

To the south in Washington State at Curlew Lake an archaeological survey has recently recorded twelve sites along the lake. (Madelaine Perry, personal communication).



BRITISH COLUMBIA

- SCALE: 1 cm. = 80 km.
- 1 Fraser River Drainage
 - 2 Columbia " "
 - 3 Kootenay " "
 - 4 Thompson " "
 - 5 Okanagan " "
 - 6 Kettle " " and
- area of study

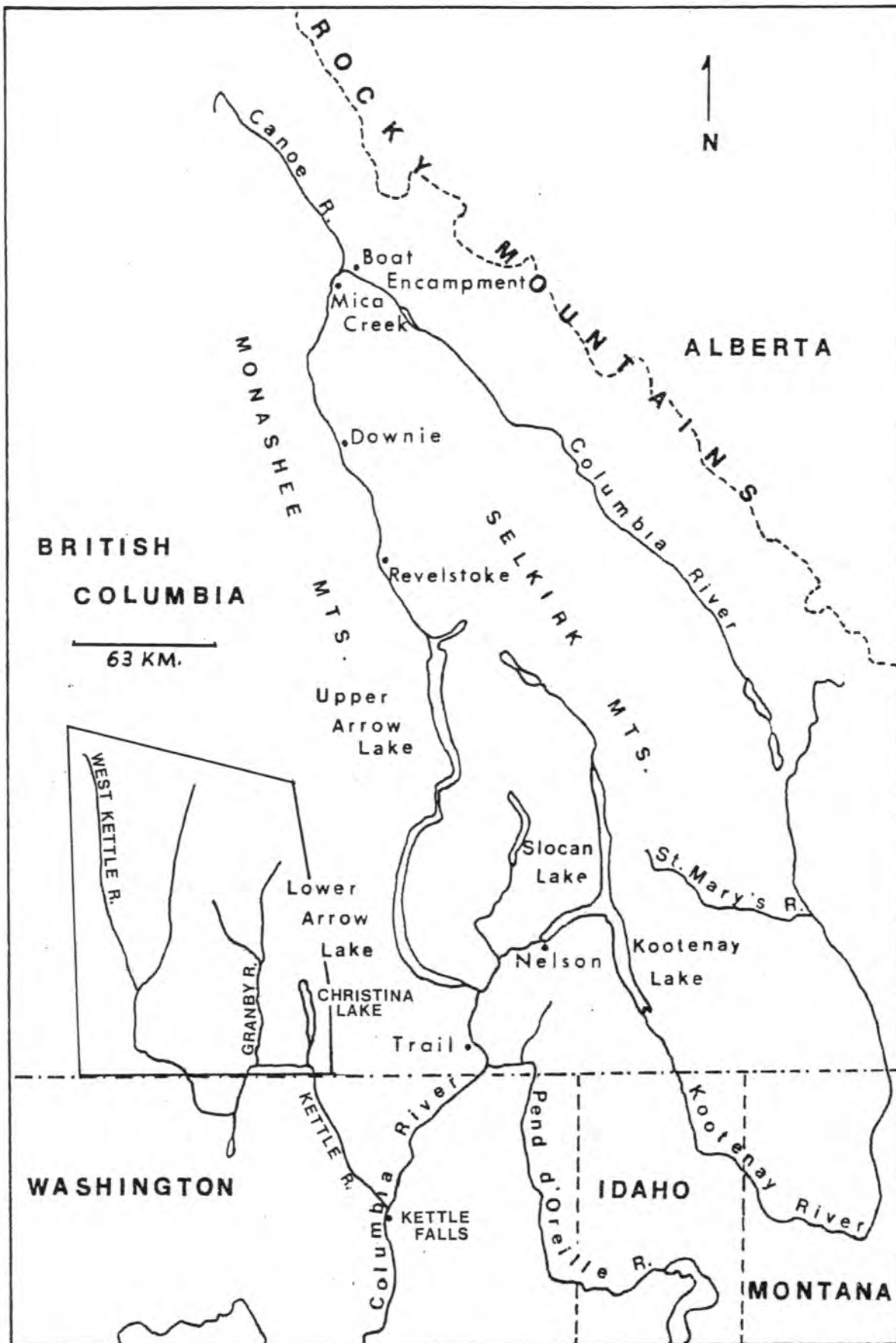


Fig. 3

THE FUR TRADE

The fur trade began in the late 1700's and early 1800's in that area of North America west of the Rockies to the sea. Three companies fought for control of the trade: The Hudson Bay Company directed from London, England; The North West Company from Montreal, Canada; and The American Pacific Fur Company from New York, U.S.A.

The Nor'Westers bought out the American Company in 1813. Norwester's and Hudson Bay Company joined forces in 1821.

Fort Colvile nearest Hudson Bay Company fort to the south-east of the Boundary District ^{WAS} designated in 1824 by George Simpson (newly appointed governor of the whole western area). The Fort was not actually completed for 3 or 4 years. Simpson persuaded J.W. Dease Chief Trader to carry on with the building inspite of what must have been a general concern that the Americans were going to push for a boundary ratification at any moment. (McLoughlin, 1824 - 38).

The site was desireable for at least four reasons.

- 1) The gathering of large numbers of Indians for annual salmon fishing (Kettle Falls).
- 2) The Columbia River was a good navigable route to the sea.
- 3) The location was such as to be deep enough in fur territory to facilitate an efficient clean-out of what would become American territory, without being so far south (as was Spokane House which it "replaced") that it would constitute an open threat to American rights. (McLoughlin, 1825 -38).
- 4) The Fort was situated on prime agricultural land (forts which could become self-sufficient saved the Company a great deal of money.) So well situated was Colvile, in fact, that in the 1840's it became the prime producer of farm and dairy products for all the other Hudson Bay Company forts. (Cole, 1972).

OREGON TREATY 1846 established the 49th parallel as the boundary between American and British territory west of the Rockies. The Hudson Bay Company continued to enjoy freedom of passage in their old trading areas but no longer could they have access to the sea, at Fort Vancouver, without paying the Americans what they considered exorbitant tariffs. Thus, from 1846 on.

the Hudson Bay Company re-routed the fur brigades through wholly British territory. Furs from Colvile, collected from all other forts to the south and north, were taken by an annual brigade to Fort Hope.

One route went north to present day Cascade B.C. and west roughly along the Kettle River to the junction of Rock Creek and Kettle then further west to the area of "Nine Mile" down and around Anarchist Mountain and up to Osoyoos. From here they went north along Okanagan Lake to the lake head then north west to Fort Kamloops joining the New Caledonia and Thompson Brigades before heading south through Nicola Lake to Fort Hope. (Creech, 1953).

ALEXANDER CAULFEILD ANDERSON, Chief Trader Fort Colvile 1848 - 1851 took fur brigades to Fort Hope during his term of tenure (McLoughlin 1838 - 44) and, previous to this, in 1842 is said to have made a journey (with wife and family) from Fort Colvile camping Oct. 26, 1842 at present day Grand Forks, Oct. 27, 1842 west of present day Rock Creek, Oct. 28 south of present day Oliver (after crossing over Osoyoos Lake on the strip of land in Osoyoos Lake), and Oct. 29 at present day Penticton. (Anderson N.D.).

A.C. Anderson Map of 1867 shows his route into Osoyoos roughly following the Kettle River to Rock Creek then following some unnamed creek toward Anarchist Summit then south of the border and around the base of Anarchist. Curiously, his map does not show the Granby River even though he allegedly made regular brigade trips through the area of the forks of the Kettle and Granby. (see Map A.C. Anderson, 23 May 1867 "A portion of the Colony of B.C. Compiled from various sources including original Notes from personal explorations between the years 1832 and 1851.")

ANGUS MC DONALD in charge at Fort Colvile 1852 -72 accompanied a number of Fort Colvile to Fort Hope brigades (he was seen arriving at Fort Hope by Miss Susan Moir in 1860, page 10, A Pioneer Gentlewoman in B.C.: The Recollections of Susan Allison, ed. by Margaret Ormsby).

In 1865 Dewdney reported that he consulted with Angus McDonald at Colvile about the various routes to Wild Horse Creek.

Fort Colvile point of collection for annual accounts from Forts to the south and north - accountants from the various forts would either bring or send their accounts to Fort Colvile for checking and inclusion in the general statement to be sent on to Norway House every spring (see Begg, History of B.C., page 124).

1841 - the harvest of furs began to decline at Fort Colvile, clean-out policy was very effective. (Simpson, 1841).

After 1841 Fort Colvile was maintained by the Hudson Bay Company for another thirty years but its operations were not expanded (although gold became a trade item in the late 1850's) plans were already being made in the late 1840's to withdraw across the 49th parallel in due course ie. when absolutely necessary and when least expensive.

Fort Shepherd (present day Waneta) was established in 1856 as a substitute for Fort Colvile - it was never really used as such - probably because of its poor location, out of the mainstream of traffic).

1871 - Colvile, the last Hudson Bay Company fort on American soil was closed.

Meanwhile, in the WEST

1811 - Fort Okanogan was established at the confluence of the Okanagan River and the Columbia by John Jacob Astor of the Pacific Fur Company (bought out by Northwest Company 1813). Astor went north to found Fort Kamloops also in 1811.

1813 - 1846 - Northwest and after 1821 the combined Northwest and Hudson Bay Company under Hudson Bay Company name brigade traffic flowed through Fort Okanagan and north up the Okanagan River to Fort Kamloops and back and south down the Columbia to Fort George (Astoria), and eventually Fort Vancouver which replaced it, for many years until 1846 when new totally British routes were sought.

1847 - Fort Okanagan was closed and the era of brigading through the Boundary Country began.

EFFECTS OF FUR TRADE ON THE INDIANS????

Fur trade probably occasioned the first contact between whiteman and Indians west of the Rockies.

Indians who frequented the Boundary Area may well have met the white man first at Fort Colvile while awaiting the annual salmon run at Kettle Falls.

Disease; smallpox, measles, something called intermittent fever; perhaps the Indians of the Boundary, if there were such, were so decimated by one or other of these epidemics that by the time of the first white settlers very few, if any, could be found and none who called this area their country.

Alcohol was used in the early days of fur trade but was condemned by Hudson Bay Company directors from 1825 (it made for less efficient trappers).

Christianity came in the wake of the fur trade, but the Hudson Bay Company attitude toward religion was typically expedient ie. if it would pacify the Indians and keep them hard working they were for it still they did not preach religion and when they carried missionaries or whatever on their treks it was at their own expense and risk.

1845 - St. Paul's Mission built on the hill overlooking Fort Colvile by Fathers DeSmet and Ravalli.

1838 - Walker's Mission, at Tshimakain about 60 miles south of Fort Colvile, a Protestant undertaking. (Cole, 1972).

(I have found no record of missionaries passing through the Boundary area.)

1847 - Indians near a Presbyterian Mission, 30 miles from Fort Walla Walla, after months of epidemic measles and dysentery had killed many of their people (despite the whiteman's medicine) struck out against Dr. Whitman and Company, murdered him and twelve others at the Mission leading to the Cayuse Uprising of 1848. (an informant).

According to the Louie's Indians, buried or baptized by the Catholics were never registered (at St. Paul's Mission) and graves were unmarked.

Intermarriage - Angus McDonald took an Indian wife and had several children - among them Christine.

The Hudson Bay Company philosophy discouraged intermarriage because it could slow down a voyager considerably but in fact many Factors and Chief Traders took Indian wives. Some few, like James Douglas, legalized their marriages. Many others left their Indian wives behind when they retired to England or Eastern Canada perhaps, taking other white wives in their places. But it seems that many continued to provide some kind of monetary support.

Near Fort Colvile especially during the last twenty years when withdrawal was realized to be inevitable but occupation was still deemed advisable, restrictions were relaxed and many more intermarriages took place.

Agriculture - Indians were probably impressed with the Fort Colvile farm and likely began some tilling of the soil. (see Lakin).

Civilization - Charles Wilson of the British Boundary Commission spent the winters of 1860-1861 and 1861-1862 at Fort Colvile after the 1861-1862 winter he observed that whiskey and civilization were effecting such changes on the Indians there that in twenty years time they would be a matter of history.

The Reservation - 1872 - Indians of the Fort Colvile area were coerced into accepting the terms of reservation life. The Colville Reserve at first designated to be an area east of the Columbia was within three months time changed to a less desirable area west of the Columbia.

1891 - SanPoils and Nespelem resisted, unsuccessfully, the attempt by the government to take back the northern half of the Reserve.

1900 - By this time the north half of the Reserve was opened to homesteaders.

1905 - With the McLoughlin Agreement over one half of the remaining Reserve Indians 'relinquished' any claim to what was left of reserve land.

EFFECT ON NATURAL RESOURCES

The Hudson Bay Company took salmon in large quantities, at the mouth of the Columbia preserving them in salt and shipping them to Hawaii.

This is just a glimpse into the historical records of the fur trade in the Boundary area. The establishment of Fort Colvile centered all activities on the fort which provided the first penetration into the Boundary area.

ETHNOGRAPHIC DATA

The research area lies within an area of ethnographic variance.

According to generalized maps of ethnographic groups of North America the study area lies within the Okanagan speaking group of Interior Salish. More specifically the Kettle River drainage area was occupied and utilized by three linguistically related groups; Sxweyi'7lhp (Colville Okanagan), Sngaytskstx (Lakes Okanagan), and the Snxwiya7lhp (Kettle River Indians) (Bouchard and Kennedy, 1979). All three groups claimed the territory from the mouth of the Kettle River near Kettle Falls to the headwaters of the Kettle River near Beaverdell and the Christian Valley. Mooney (1896) gives the entire Kettle River Valley to the Sxweyi'7lhp (Colville Okanagan), whereas Teit (1910-1913, 1930) shows the Sngaytskstx (Lakes Okanagan) occupying the Kettle River Valley up to Cascade Canyon and the Okanagan occupying the Upper Kettle River Valley. Ray (1936) distinctly states the Lakes Okanagan occupied the entire Kettle River Valley. Bouchard and Kennedy (1979) gathered data from several informants who all gave evidence agreeing to the "state of confusion" created by the early ethnographers. It appears reasonable to say all three groups utilized and occupied the Kettle River Valley.

David Chance clears some of this confusion up with the following relevant statement pertaining to the division of boundaries: "No one tribe or band commanded a sufficient variety of food resources within its boundaries. Indeed there was no such thing as a band or tribal boundary. In speaking of the locations of peoples, it is best to conceive of them as centered at points or series of points along water courses. Territories may be loosely considered, however, to have been often defined by natural divides or ridges between watersheds. These boundaries were never observed, nor perhaps even explicitly recognized - they were crossed regularly. This accounts for the ambiguity of these territories - it is based upon a cultural fact, namely the sharing of resources." (Chance, 1973)

According to Bouchard and Kennedy (1979) the term Nxwiya7lhpi'tkw is used to refer to the entire area of the Kettle River; the term Snxwiya7lhpi'tkwx refers to the Kettle River people. Teit (1910-1913) acknowledges a group of people along the Kettle River. He states that: "more investigation is required for the Kettle River country, my information regarding it is being entirely from Lakes."

Also, Father Diomedi engaged in missionary excursions to the outlying Indians (from Fort Colville) among them a small unidentified group residing in the Kettle River Valley near Rock Creek, B.C. (Diomedi, 1878).

The Snxwiya7lhp are thus known to have occupied the Kettle River in the mid - 1800's. Their numbers were most likely greatly reduced between the years 1846 - 1854 when small pox, measles, and influenza struck the area. Population estimates of 1860 were 600 Colville and 200 Lakes (Ray 1954). This estimate was after the epidemics which most likely decimated the true native population. An estimate of the Snxwiya7lhp (Kettle River Indians) would be 100.

During the 1860's there was a movement of Lakes southward into an area that had been previously utilized by both the Colville and the Lakes (Bouchard and Kennedy, 1979). This could have been due to the following:

- 1) There could have been a steady movement south by the Lakes and Kettle River Indians due to the attraction of Fort Colville.
- 2) Pressure by British Columbia Government on Lakes forcing them to move south.

(Teit, 1910 - 1913) states:

"The Lakes being of the same language as the Colville Indians, and the southern portion of the tribe being much intermarried with the latter, they were allowed on the Colville reservation which most of them took advantage of. Over 100 (Lakes) however, (remnants of the more northern bands) remained on their old grounds in British Columbia, and the B.C. government officials took the position that the Shuswaps alone had rights in that district (Arrow Lakes), the Lakes being American Indians from the Colville reservation, and interlopers in B.C. Later their rights were partly recognized by setting aside a small reservation near Burton, but the Canadian Indian Department classes them as Shuswaps which is quite misleading."

The pressure on the Lakes in the Arrow Lakes area could have very well been carried over to the Kettle River area where the Canadian - United States Border cut the Kettle River in half, thus separating the Snxwiya7lhp (Kettle River Indians).

3) Internal political, social, economic and psychological breakdown within the native culture structure causing outside influences to change the needs of the group, thus causing them to move south.

The native people along the Kettle River were nomadic seasonal hunters and gatherers who congregated in small socio-political bands and exploited the seasonally available food resources. The subsistence pattern was primarily riverine orientated and secondarily orientated towards lakes and mountain areas. The upper Kettle River Valley above Cascade Falls did not experience a salmon run which isolated the salmon resources from the inhabitants of the upper Kettle, thus possibly orientated the inhabitants to exploit other resources and forcing them to travel to salmon fisheries at Cascade and Kettle Falls or the Okanagan River.

A tho rough examination of ethnographic information is given in Teit (1930), Chance (1973), Bouchard and Kennedy (1975, 1979).

Sweyi7lhp (Colville Okanagan) Place Names (along Kettle River)
and Their Interpretations

Sntkwelkwel³línktn - "sunshine on side hill". Campsite.

Ntet³wutíta7kw - "little creek comes into river at right angles". Campsite.

Sxwenítkw - "large waterfall".

Kmgátmken - "broad at the top". Low long mountain ridge.

Nk'mm³tsiń - "mouth of two rivers". Area where the Granby River meets the Kettle River.

Nxwiya7lhpítkw - Kettle River.

Nts'wan aytm - "place where they have sasquatches"? Possible, yet questionable name for the Granby River.

K'lhsáxem - Cascade Falls. "end of fish going up". (major fishing site - this is the furthest spot north on Kettle River where salmon spawned)

Nts7am - Christina Lake.

Nmtsák³wem - "place of mtsakw".

Xáxp'lh - "tied together at the middle of two lakes". Arcaza Lake, Arcaza Mountain, and the stream that enters the Kettle River.

Sesk'tsín - "split at the mouth". The town of Curlew, which takes its name from the "split" canyons on the west side of the town, south of Kettle River.

Skekew'ílhpm - "having wild rose bushes".

Klhts'elts'elxwús - "a tripod". The flat area here is where an old man named Kwusmas used to live.

Kw'etkw'etxwilps - "crooked neck". Distinctive rock hills on northwest side of Kettle River.

Sxagáyaken - "cold head". Rock Creek.

Sntúnxten - "having beaver". Beaverdell - small creek here this is the northernmost extent of Sxwéyi7lhp territories.

These Colville Okanagan place names are from Martin Louie, a Colville Okanagan. The place names were researched by The British Columbia Indian Language Project, Randy Bouchard and Dorothy Kennedy.

APPENDIX II. A Phonetic Key to the Practical Writing System Used For
Okanagan Words in this Report.

The practical phonemic writing system was designed by R. Bouchard (1973) with the assistance of L. Pierre, Indian Language Specialist from Penticton. The equivalent International Phonetic Alphabet symbols are given in square brackets:

1. A glottal stop [ʔ] is written here as the number 7.
2. An accent ^ˈ marks the vowel that receives primary stress, in all words containing two vowels or more.
3. An apostrophe following a consonant (e.g. k') indicates a glottalized or "strongly exploded" sound. An apostrophe above a consonant (e.g. k^ˈ) indicates a glottalized resonant or "weakly exploded" sound.
4. Underlining of a consonant (e.g. k) indicates a sound which is produced "at the back of the throat", at the same position as the "ch" in German "Bach" is pronounced, or even further back. These "back" sounds are technically known as uvulars and pharyngeals.
5. A 'w' beside a consonant (e.g. kw) indicates a sound which is produced "with rounded lips" or labialized.
6. Four phonemically-distinct vowels are recognized: a, e, i, and u. The symbols are listed here in alphabetical order:

a [ae], [a] - varies from the vowel sound of English "bat" to that of "father".

e [ə], [ɛ], [v] - varies from the vowel sound of English "earth", to that of "but", to that of "put".

g [ɣ] - a "friction" sound, made with the tongue in the same position as for Okanagan "k", but with "voicing" (does not occur in the Colville dialect).

ḡ [ɣ'] - like Okanagan "g", but pronounced with a slight "catch" in the throat.

ḡ [ɣ̠] - like Okanagan "g", but produced further back in the throat.

ḡ [ɣ'] - like Okanagan "ḡ" but pronounced with a slight "catch" in the throat.

ḡw [ɣ°] - like Okanagan "ḡ", but produced with rounded lips.

ḡw [ɣ'°] - like Okanagan "ḡw", but pronounced with a slight "catch" in the throat.

h [h] - as in English.

i [i], [ei], [I] - varies from the vowel sound of English "beat" to that of "bait" to that of "bit".

k [k] - as in English.

k' [k'] - pronounced like "k", but strongly exploded.

ḡ [q] - pronounced like "k", but further back in the throat.

ḡ' [q'] - pronounced like "ḡ", but strongly exploded.

kw [k°] - pronounced like "k", but with rounded lips.

kw' [k'°] - pronounced like "kw", but strongly exploded.

ḡw [q°] - pronounced like "ḡ", but with rounded lips.

ḡw' [q'°] - pronounced like "ḡw" but strongly exploded.

l [l] - as in English.

ḡ [l'] - pronounced like "l", but with a slight "catch" in the throat.

lh [ɬ] - similar to the "thl" sound of English "athlete".

m [m] - as in English.

ḡ [m'] - pronounced like "m", but with a slight "catch" in the throat.

n [n] - as in English.

- ṅ [n'] - pronounced like "n", but with a slight "catch" in the throat.
- o [ɔ] - pronounced like the vowel sound of English "bond"; very rare -- occurs only in loan words
- p [p] - as in English.
- p' [p'] - pronounced like "p", but strongly exploded.
- r [r̥] - similar to the English "r" sound, but with a distinct "trill".
- ṛ [r'] - pronounced like "r", but with a slight "catch" in the throat.
- s [s], [š] - pronounced most often as in English "s", but sometimes as in English "sh".
- t [t] - as in English.
- t' [t'] - pronounced like "t", but strongly exploded.
- tl' [λ'] - Okanagan "t'" pronounced together with Okanagan "lh" as one sound.
- ts [t͡s], [č] - pronounced most often as in English "ts", but sometimes as in English "ch".
- ts' [t͡s'] - pronounced like English "ts", but strongly exploded.
- u [o], [u] - varies from the vowel sound of English "boat" to that of English "boot".
- w [w] - as in English.
- ṽ [w'] - pronounced like "w", but with a slight "catch" in the throat.
- x [x] - a "friction" sound, like Okanagan "g", but pronounced "silently".
- ɣ [ɣ] - pronounced like "x", but further back in the throat.
- xw [xʷ] - pronounced like "x", but with rounded lips.
- ɣw [ɣʷ] - pronounced like "ɣ", but with rounded lips.
- y [y] - pronunciation is similar to English "y".
- ṽ [y'] - pronounced like "y", but with a slight "catch" in the throat.

METHODOLOGY

A systematic archeological survey was initiated within the Kettle River drainage area to locate and record all the available archaeological resources, a survey crew of three people systematically investigated river, lake, and creek valley bottom areas for two complimentary reasons: 1) Native prehistoric inhabitants of the area were primarily river (valley) orientated. This is a quantitative judgement pertaining to the amount of cultural activities occurring such as hunting, gathering, and travel trail systems. (A diffused economy base) and 2) River and valley bottoms within the Kettle River drainage area are being rapidly developed, thus endangering and seriously affecting the archaeological resources. Spot survey in upland mountain areas were carried out when archaeological sites were reported to us by local residents.

Phase I of the Boundary Archaeological Survey Project involved the systematic survey of Christina Lake, Christina Creek, Kettle River, and a portion of the Granby River (from Cascade Border Crossing, just south of Christina Lake, to Carson Border Crossing southwest of Grand Forks, B.C.) An examination of the Kettle River Valley area from Christina Lake to Grand Forks includes the surveillance of the corridor area which included extinct river terraces and upper pleistocene lake terraces. An extensive survey was conducted just north and east of Dg Qn 4. The main objective of this intense survey was to determine the extent of cultural activity in this area; hunting blinds, jumps and arranged drives. The area represents an open bunchgrass environment on a due south slope which is the location of an early spring annual gathering (in March) of large numbers of White Tail Deer (*odocoileus virginianus*) and Mule Deer (*hemionus hemionus*). The deer congregated within this area to feast on the first sprouts of bunchgrass. The survey of this area revealed no cultural activity noticed from surface indications.

Surface collection at all sites was conducted with locations of artifacts plotted on B.C. Archaeological Site Form Maps. Surface collection was carried out to investigate the ethnohistory of this unknown area. A decision to surface collect was implemented partially because there has been an extensive archaeological resource inventory and a defined cultural sequence established at Kettle Falls on the Columbia River just south of the research area. All artifacts recovered were catalogued and recorded on 1) B.C. Provincial Museum Archaeology Division Surface Collection Record including National Inventory Data Form and 2) Artifact Recording

Sheet. An attribute analysis was conducted utilizing the Archaeological Data Recording Guide (B.C. Provincial Museum Methodology Dictionary) (Loy and Powell, 1977).

ARCHAEOLOGICAL SITE TYPOLOGY, LOCALITIES AND DESCRIPTIONS

All fifty-nine archaeological sites recorded will be categorized by
 1) Biogeoclimatic Zones 2) Specific Geographical / Cultural Localities
 within these zones.

Ponderosa Pine Bunchgrass Zone (thirty-nine archaeological sites)

Cascade Canyon and Falls locality, (K'lhsa'xem)

Dg Qn 3, 36, 24, 25, 27, 34, 10, and H5.

Christina Lake, Christina Creek, (Nts7am)

Dg Qn 14, 29, and 30.

Kettle River (west of Cascade Canyon) locality, (Nxiwiya7lhpi'tkw)

Dg Qo 1, 2, 4, 5, 9, 10, 11, 12, 13,

Dg Qn 4, 16, 17, 18, 20, 21, 22, 26,

Dg Qp 1, 2, 3, 4,

Dg Qq 1 (Boundary Creek).

Granby River locality, (Nts'wanaytm)

Dg Qo 3, 6, 7, 8, 14, and 15.

Interior Western Hemlock (thirteen archaeological sites)

Christina Lake (Nts7am)

Dg Qn 2, 6, 7, H8, 11, 12, 13, 15, 19, 23, 28, 31

Dh Qn 1.

Interior Douglas Fir (SEVEN ARCHAEOLOGICAL SITES)

Christina Lake (Nts7am)

Dg Qn 1, 9, 32, 33, 35,

Dh Qn 2, 3.

All sites were recorded on the British Columbia Archaeological Site Inventory Form. Additional information of each site is available in the site forms. See additional topographic map along with this report for site location(s). See also topographic map with preliminary report.

DATA OF THE

BIOGEOCLIMATIC ZONES WITHIN THE KETTLE RIVER DRAINAGE

AREA

Fig.5

| REGION | ZONE | TOPOGRAPHY | | | PRECIPITATION | | | | Clouds |
|--|-----------------------------------|------------------|--------------------------|----------------------------|--------------------------|----------------------------------|--------------------------|---------------------------|----------------|
| | | Altitude area | feet | Main Ex- po- sure | Annual total (in.) | Annual snow- fall (in.) | Driest month (in.) | Wettest month (in.) | |
| III. Canadian Cordilleran forest | 4. Interior western hemlock | -- | 1200- 4000 (-4200) | North and nil | 22-67 | 75-265 | 1-2 | 3.2-10 | very common |

25

| | | | | | | | | |
|--------------------------------|----------------|---------------|------------------------------|-----------------------|-------|---------|-------|----------|
| 5. Interior Douglas- fir | North | 1500- 3000 | South and nil | (14- 16-22 -25) | 30-70 | 0.5-1.1 | 2-3.5 | frequent |
| | South- west | 2000- 4400 | (in wetter parts), | | | | | |
| | South- east | 1000- 2500 | North (in drier parts) | | | | | |

| REGION | ZONE | TOPOGRAPHY | | | PRECIPITATION | | | | Clouds |
|--|---|------------------|--------------|----------------------------|--------------------------|----------------------------------|--------------------------|---------------------------|-----------|
| | | Altitude area | feet | Main Ex- po- sure | Annual total (in.) | Annual snow- fall (in.) | Driest month (in.) | Wettest month (in.) | |
| IV. Cordilleran cold steppe and savanna forest | 7. Ponderosa pine - bunch- grass | - | 900- 2500 | None | 7.4- 14 (-15.5) | 20-60 | 0.29- 0.6 | 1.13- 2.0 | very rare |

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| TEMPERATURE (°F) | | | | | | | | | | | CLIMATE | |
|------------------|--------------|-------|------------------|------------|--------------|---------------------------|----------|-----------------|-----------------------------------|------------------------------|---------------------------|--|
| Annual | Mean monthly | | Number of months | | Annual range | Number of frost-free days | Absolute | | Accumulated day-degrees over 43°F | classification (Köppen) | regimen | |
| | Jan. | July | above 50°F | below 32°F | | | maxi-mum | mini-mum | | | | |
| | | | | | | | | | | | | |
| 31-46 46 | 12-27 | 59-69 | 3-5 | 3-5 | 34-45 | (50-)100-150 | 95-106 | (-52-) -50-7 | 1500- 3000 (-3500) | Dfb (and the wettest Dsb) | contin- ental humid | |

| | | | | | | | | | | | |
|----------------|-------|-------|-----|-----|-------|--------|--------|-------------|---------------|--|--|
| 41-48 40-48 | 10-26 | 62-69 | 5-6 | 2-4 | 43-46 | 75-200 | 97-110 | -51- -25 | 2000- 3500 | Drier Dfb, the wettest Dsa and the wet Dsb | contin- ental subhumid to humid |
|----------------|-------|-------|-----|-----|-------|--------|--------|-------------|---------------|--|--|

| TEMPERATURE (°F) | | | | | | | | | | | CLIMATE | |
|------------------|--------------|-------|------------------|------------|--------------|---------------------------|----------|----------|-----------------------------------|----------------------------|---|--|
| Annual | Mean monthly | | Number of months | | Annual range | Number of frost-free days | Absolute | | Accumulated day-degrees over 43°F | classification (Köppen) | regimen | |
| | Jan. | July | above 50°F | below 32°F | | | maxi-mum | mini-mum | | | | |
| | | | | | | | | | | | | |
| 42-50 | 17-27 | 64-72 | 5-7 | 2-4 | 43-47 | (80-)100-200 | 101-112 | -42--6 | 2500- 3500 | Bsk, Dsa Dsb(driest) | contin- ental cold semiarid to sub- humid - dry | |

SUBZONES

| Climatic climax plant association | Name | Major cause | Subzonal plant indicators | Land use |
|---|--------------------------------------|---|---|---|
| (A) Tsugeto - Pachistimetum myrsinitis pleurozietosum schreberi | (A) Western larch (drier subzone) | (A) Annual total precipitation: 22-35 in. | (A) Larix occidentalis, Abies grandis, Pseudotsuga menziesii, (Pinus ponderosa), Arctostaphylos uva-ursi, Chimaphila umbellata, Apocynum androsaemifolium, Pleurozium schreberi | (A) Forest good, agriculture and wild life limited. |
| (B) Tsugeto - Hylocomietum splendidis cometosum canadensis | (B) Western hemlock (wetter subzone) | (B) Annual total precipitation: 35-67 in. | (B) Gaultheria hispidula, Opopanax horridus, Lysichitum americanum, Maianthemum canadense, Streptopus roseus, Streptopus streptopoides, Platanthera orbiculata, Ptilium crista-castrensis, Rhytidiopsis robusta | (B) Forest very good (to excellent) especially in seepage habitats; agriculture and wild life very limited (too much snow). |
| (A) Pseudotsugeto - Arctostaphyleto - Calamagrostidetum rubescentis | (A) Pinegrass (drier subzone) | (A) Annual total precipitation: 16-19 in. (usually only in lower altitudes of the zone) | (A) Ceanothus velutinus, Agropyron spicatum, Artemisia frigida, Astragalus serotinus, Comandra pallida, Eriogonum heracleoides, Festuca idahoensis, Gaillardia aristata, Geum triflorum, Oxytropis gracilis, Stipa columbiana, S. richardsonii, Zigadenus venenosus | (A) Forest good (mainly for ponderosa pine), agriculture and wild life good. |
| (B) Pseudotsugeto - Pachistimetum myrsinitis | (B) False boxwood (wetter subzone) | (B) Annual total precipitation: 20-22 in. (mainly in higher altitudes of the zone) | (B) Lonicera utahensis, Pachistima myrsinites, Juniperus communis var. montana, Goodyera oblongifolia, Chimaphila umbellata, Linnaea borealis, Cornus canadensis, Pyrola secunda, Vaccinium scoparium | (B) ditto, forest of ponderosa pine (pioneer tree) excellent. |

SUBZONES

| Climatic climax plant association | Name | Major cause | Subzonal plant indicators | Land use |
|-------------------------------------|-------------------------------------|--|---|--|
| (A) Stipeto - Agropyretum spicati | (A) Bunchgrass (drier subzone) | (A) Annual total precipitation 7.4-9 in. | (A) Purshia tridentata, Artemisia tridentata, Sporobolus cryptandrus Oenothera pallida, etc. | Forest very limited (only ponderosa pine with rather poor growth). Agriculture advanced. Orchards under irrigation excellent. Wild life good. Summer recreation. |
| (B) Agropyreto - Pinetum ponderosae | (B) Ponderosa pine (wetter subzone) | (B) Annual precipitation 10-15.5 in. | (B) Pseudotsuga menziesii var. glauca, Rhus glabra, R. radicans, Sambucus glauca, Arceuthobium douglasii, Artemisia frigida, Chrysopsis villosa, Festuca scabrella, Penstemon confertus, etc. | |

| REGION | ZONE | VEGETATION COVER | Prevailing pedogenic process | Zonal | | Zonal combination of plant indicators |
|----------------------------------|-----------------------------|--|--|---|-----------------------------|--|
| | | | | group | humus | |
| III. Canadian Cordilleran forest | 4. Interior western hemlock | Microthermal Cordilleran coniferous forest | Strong podzolization, strong mor formation, seral gleization. No laterization. | (A) Minimal and orthic podzol | Ligno-mycelial mor | Tsuga heterophylla, Thuja plicata, Pinus monticola, Pseudotsuga menziesii var. glauca, Gaultheria ovatifolia, Lonicera utahensis, Oplopanax horridus, Pachistima myrsinites, Rosa gymnocarpa, Taxus brevifolia, Vaccinium membranaceum, Aralia nudicaulis, Clintonia uniflora, Cornus canadensis, Goodyera oblongifolia, Gymnocarpium dryopteris, Linnaea borealis, Listera caurina, L. cordata, Oryzopsis asperifolia, Pyrola asarifolia, P. secunda, Tiarella unifoliata, Hylocomium splendens, Pleurozium schreberi, Ptilium crista-castrensis, Rhytidia delphus loreus |
| | | | | (B) Ortstein podzol | Ligno-mycelial mor | |
| | 5. Interior Douglas-fir | Microthermal Cordilleran coniferous forest | Podzolization weak to moderate. Moder or thin mor formation. Seral gleization rare. No laterization. | (A) Orthic brown forest (up to orthic brown wooded) | (A) Moder (matted) | Pseudotsuga menziesii var. glauca, Pinus ponderosa, P. contorta, Larix occidentalis, (Abies grandis), Thuja plicata, Amelanchier alnifolia, Holodiscus discolor, Arctostaphylos uva-ursi, Mahonia aquifolium, M. repens, Pachistima myrsinites, Penstemon fruticosus, Rosa nutkana, Shepherdia canadensis, Spiraea lucida, Apocynum androsaemifolium, Aster conspicuus, Calamagrostis rubescens, Carex concinnoides, Festuca occidentalis, Galium boreale, Letharia vulpina, Tortula ruralis |
| | | | | (B) Minimal podzol | (B) Thin ligno-mycelial mor | |

SOILS

| REGION | ZONE | VEGETATION COVER | Prevailing pedogenic process | Zonal | | Zonal combination of plant indicators |
|--|--------------------------------|---|--|---|---------------------------|--|
| | | | | group | humus | |
| IV. Cordilleran cold steppe and savanna forest | 7. Ponderosa pine - bunchgrass | Bunchgrass steppe to ponderosa pine parkland (on glacial till). Natural succession develops toward bunchgrass steppe. | Calcification, melanization (mull formation) | Light brown - dark brown - thin black - black (chernozem) | (Earth) mull - thin moder | Pinus ponderosa, Artemisia tridentata, Chrysothamnus nauseosus, Ribes cereum, Prunus demissa, Philadelphus lewisii, Agropyron spicatum, Antennaria dimorpha, Astragalus purshii, A. serotinus, Balsamorhiza sagittata, Comandra pallida, Erigeron compositus, E. corymbosus, E. filifolius, E. flagellaris, E. linearis, E. pumilus, Erigonum heracleoides, Festuca idahoensis, Gilia aggregata, Lewisia rediviva, Lupinus sericeus, Opuntia fragilis, O. polyacantha, Oryzopsis hymenoides, Oxytropis gracilis, O. lambertii, Stepanomeria tenuifolia, Stipa comata, S. columbiana. |

Cascade Canyon and Falls Locality

Locality Setting, Cultural, and Environmental Correlations

Cascade Canyon locality is situated on the Kettle River just south of Christina Lake, B.C. Dissecting through the center of the canyon the Kettle River roars through the steep sided canyon preventing anyone let anything to safely pass down or up the waterway, thus forming a natural ecological barrier, specifically to aquatic life ascending the river. It is here at the canyon area where the Ponderosa Pine - Bunchgrass Zone begins westward revealing a drier and open environment while the Interior Western Hemlock Zone is evident along the east side of Christina Lake and the Interior Douglas Fir Zone on the west side of Christina Lake.

It has been reported by native informants (Martin Louie and Albert Louie) that sockeye salmon spawned below Cascade Falls because they could not ascend the falls, hence the name K'lhsaxem "end of fish going up". Historical documentation has not been located as of yet to verify this. According to the International Pacific Salmon Fisheries Commission sockeye salmon fry require a lake for rearing during the first year or two of life. Since no lake is available below Cascade Canyon, sockeye spawning in this area would not be self-sustaining. It seems unlikely that fry produced from spawning in this area could find their way to Christina Lake (Philip Gilhousen, Project Biologist Pers. Commission).

The cultural activity in the vicinity of Cascade Canyon appears to have been orientated towards salmon fishing. One can speculate that this was the main focus towards occupying the locality. It could also have been the focal point of different groups. The Snxwiya7lhpi'twx (People of the Kettle River) could have come down via the Kettle River to fish. The Sngaytskstx (Lakes Okanagan) on their way to Kettle Falls via Arrow Lakes could have congregated at Cascade to fish, and the Sxweyi7lhp (Colville Okanagan) could have ventured up the Kettle River to fish.

PONDEROSA PINE - BUNCHGRASS ZONECASCADE CANYON AND FALLS LOCALITY

Cascade Canyon and Falls Locality known ethnographically by Colville Okanagan Indians as K'ih'saxem "end of fish going up" (referring to the furthest extent of salmon north on the Kettle River). (see figure 4). The ethnographic information available from native informant Martin Louie indicates that sockeye salmon spawned below Cascade Falls during July, a trail came to the south side of the Falls. The U-shaped basket net called the Ts'eli'7 and the harpoon were used here when Martin Louie fished here. There were twenty-five camps all sharing in the proceeds from the Ts'eli7. There was a salmon fishing organizer at the camp. The salmon fishing organizer helped distribute the salmon caught making sure everyone got a fair share (Bouchard, and Kennedy, Pers. Cum., 1975). A myth concerning the origin of salmon and the formation of Cascade Canyon is told by Martin Louie and is written in this report (see Dg Qn 27).

A total of eight archaeological sites were located within the Cascade Canyon Locality. They are Dg Qn 3, 36, 24, 25, 27, 34, H5, and 10 (see B.C. Inventory Site Forms).

Dg Qn 3 is a general activity site with one possible cultural depression (housepit) located just east of Cascade Falls. (Cascade Falls is at the eastern end of Cascade Canyon and represents a small waterfall, the Canyon extends one kilometer west of the Falls.) Firebroken rock, butchered bone, a piece of worked bone, a hammerstone, and waste flakes were found indicating a campsite/multi-functional site. Evidence of historical remains from the former town of Cascade (early 1900's) is also evident at the location and has altered considerably the aboriginal site. Dg Qn 3 was probably utilized as a summer campsite during the sockeye salmon run at Cascade Falls. The possible existence of a housepit depression reveals a possible permanent occupancy of Dg Qn 3.

Dg Qn 3 showed no determinable attributes indicating the true age of the site. A series of test excavations are necessary to determine this. No one of the artifacts recovered were diagnostic to any specific time period. A developed archaeological sequence has been formulated at Kettle Falls, just forty-five kilometers south of Cascade Canyon. An estimate age based on soil profile from Dg Qn 36 located just below Dg Qn 3 is within the last 3,000 years.

Dg Qn 3 is 10,000 square meters aerial extent. The depth of cultural



deposits is indeterminant. Due to extensive development in the early 1900's with the activities of historical Cascade City and the Cascade Water and Power Company Powerhouse at Cascade Falls the remaining deposit at Dg Qn 3 is fifty percent or less undisturbed. It is difficult to determine the exact aboriginal extent of site. Test excavation is necessary at this site.

Dg Qn 36 is a multi-component site with three rectangular cultural depressions located just below Dg Qn 3 on the present river bank of the Kettle River just below and east of Cascade Falls. Cultural remains at Dg Qn 36 represent 1) Three rectangular cultural depressions of historical or prehistorical nature 2) A cultural layer fifty-six centimeters below surface exposed in a river cut bank with evidence of charcoal and cobbles. This layer is buried by a sterile sand (33 cm. B.S. to 56 cm. B.S.). Above this is a sterile organic humus layer which at one point in time was the surface of the bank. This entire soil horizon and cultural layer is buried by overburden either river deposited or slumped material. This sterile overburden is a mixture of sand and pebbles. An estimated age of the buried soil horizon and cultural layer is 3,000 B.P. determined by depth of deposit. This site could very well have been used during summer months at the time of procuring salmon. The rectangular cultural depressions could indicate possible summer mat lodges or drying racks for fish.

Dg Qn 36 is 1,255 square meters aerial extent. The depth of deposition shows a depth of 66 cm. B.S. with a 10 cm. depth of cultural matrix. Due to the cutting down of the river bank Dg Qn 36 at one time was of a greater extent, however sixty-five percent of the site is still intact. Test excavation at this site would be pertinent to the extent of cultural occupation at Cascade Falls, due to the deposition of the cultural matrix.

Dg Qn 24 possesses two circular depressions 1 meter in diameter each representing either roasting pits or storage (cache) pits. The site is situated on the south side of the Kettle River 150 meters downstream from Dg Qn 36. Martin Louie, Colville Okanagan Indian informant stated that "three quarters of a mile below Cascade Falls was where they camped". This is the location of Dg Qn 24. Due to heavy undergrowth only the two circular depressions were obvious signs of cultural activities. Storage pits for storing salmon and roasting pits are indicative of spring, summer, and fall activities. It is difficult to determine a date of the cultural depressions, however Martin Louie's information would indicate

a historical occupation of the site.

Dg Qn 24 represents an estimated aerial extent of 10,000 square meters. This is an estimate which covers a flat river bench just above the Kettle River. Some historical remains from the logging industry is evident near the site. River erosion is cutting away at Dg Qn 24 which has eroded a portion of the site. At re-examining the site it appears that seventy-five percent of the original site is intact.

Dg Qn 25 is a resource utilization site directly north across the Kettle River from Dg Qn 24. Ralph Wolverton in the early 1900's observed native people spearing fish at the location (see fig.6). Mr. Wolverton obtained also a single toggle harpoon from a native (see fig.7). fisherman at the time the photo was taken. A date of 1910 can be given to the photo and use of the site. Upon examination of the site there are no observable archaeological indications of a site, however it would be worthwhile for a test excavation.

Dg Qn 25 is an estimated aerial extent of 9,000 square meters along the Kettle River. This is where an extinct sockeye salmon spawning ground area is located. Due to the nature of the site it is difficult to determine present condition and cultural occupation. It is important to test excavate to reveal the existence and extent of cultural deposits.

Dg Qn 27 is a mythological site referring to a local Colville Okanagan myth pertaining to the origin of salmon and a natural feature (Cascade Falls and Canyon). The myth of Cascade Canyon and Falls is documented by the B.C. Indian Language Project and given by Martin Louie. K'lhsaxem "end of fish going up". The following is the myth from Bouchard and Kennedy (1975).

The origin of salmon

"When the world was occupied by the animal people, the inhabitants of Kettle Falls were without salmon, so Coyote, who thought that he was smarter than the other people, decided to go south to get some salmon from the people who lived at The Dalles.

Coyote travelled and travelled until he came to The Dalles, where three women - two snipes and a seagull, had built a weir across the river. After observing the women for awhile, Coyote found that they checked the salmon weir twice a day. There were a lot of salmon in the river, but first, Coyote had to think of a plan to get down to the weir.

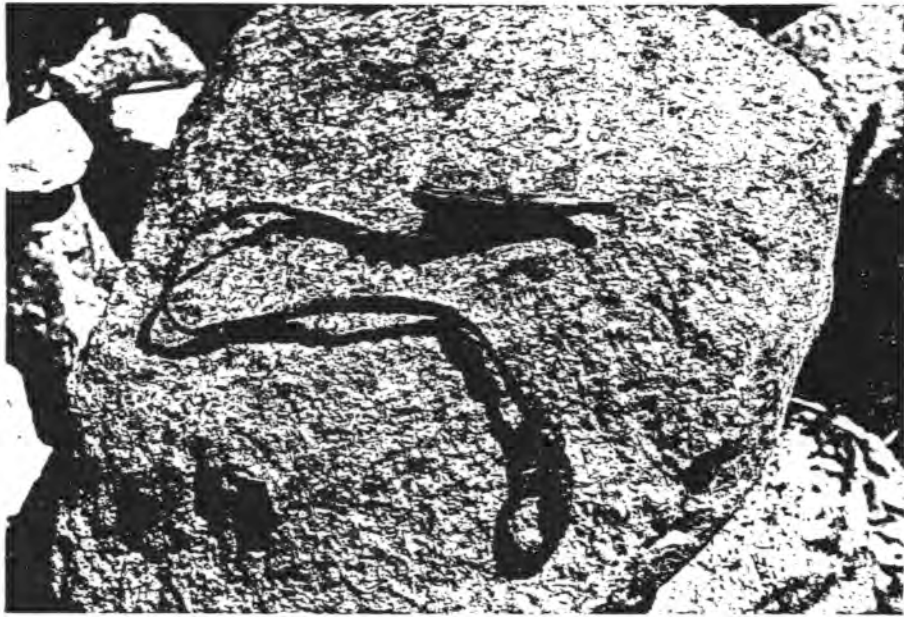


Fig. 7

He pulled a piece of bark from a tree, summoned the four powers in his feces, and changed himself into a baby. Then Coyote sat on the bark and floated down the river. "Oh, look at the baby!" called one of the women. "Let's take him home and keep him for our little brother," agreed the women.

The next day, when the women left the camp, they tied the baby, so that he couldn't wander away. Coyote untied himself, ran down to the river, and began to dig a channel on the east side of the river. When it was time for the women to return, Coyote returned to the camp and tied himself. He then splashed some dirt on his face and looked so pitiful that when the women saw him, they fed him, bathed him, played with him, and then put him to bed.

Every day, Coyote dug the channel. One day, the women went back to the camp to find their little brother gone. "I guess he wasn't a baby!" they said to each other. As they ran towards the salmon weir, they could see Coyote's head bobbing up and down as he tried frantically to finish digging the channel. On his head, Coyote had placed a horn spoon, so when the women began to club him, he couldn't feel anything. Suddenly, the channel broke through! The salmon were escaping!

"Follow me!" Coyote hollered to the salmon as he ran north along the bank of the Columbia River. Whenever Coyote came to a village, he traded some salmon for a woman, although he was sometimes refused. The Lakes Okanagan people wouldn't give Coyote a woman, so he didn't leave any salmon for them. He then travelled down to Cascade Falls, K'lhsaxem "end of fish going up", and tried to barter a woman from the people who were camped there. None of the women would go with Coyote, so he became angry and made a water-fall in the river which blocked the fish from going any further.

Coyote then returned to Kettle Falls, where he saw his grown daughter, Ki7antsutn "stop the fish for a while". "Sit in the middle of the river, facing south," he told the girl. When she had done so, Coyote transformed the girl into a rock, which can still be seen today. "This is where the people will catch salmon," announced Coyote."

Dg Qn 27 refers to the entire canyon and falls of Cascade on the Kettle River.

Dg Qn 34 is a general activity site located on the north side of the

Kettle River, 200 meters above the river in a meadow. The site contains waste flakes, firebroken rock, butchered bone, glass, metal, and porcelain (historical remains). The site represents a campsite with slight historical alteration. The site shows a pronounced historical occupation. This brings up a unique possibility in that it might represent a possible campsite of Charles Wilson's British Boundary Commission who in 1860 - 61 camped at or near this spot (Map 615 W747 1861 at the Provincial Archives). Another map of Wilson's placed the campsite at Dg Qn H5 which makes it somewhat confusing, except that we have a historical occupation at both locations.

Dg Qn 34 shows a historical and possible prehistoric occupation. The historical occupation would date possibly to 1860 A.D. once again the need for test excavation is needed. I would propose to test excavate all the sites in the Cascade Canyon locality if possible to determine occupation. The locality is an important archaeological resource locality on the Kettle River.

Dg Qn 34 is 1,500 square meters in aerial extent with an indeterminate depth of cultural deposits. There is minor disturbance at the site due to a road-cut and historic clearing activities. At the present sixty percent of the site is intact.

Dg Qn 10 (see Dg Qn 10; salvage recovery of dugout canoe page of this report).

Dg Qn H5 is a general activity, historical site located on an upper bench just upstream from Cascade Canyon and is directly above Dg Qn 10. Metal, glass, cut bone, and a brass button were found at the site indicating a historic occupation. No evidence of prehistoric remains has been noted. This site (see Dg Qn 34) is a possible location of Charles Wilson's British Boundary Commission camp 1860 - 61 on the Nehualpitkwu (Kettle) River.

Dg Qn H5 is possibly contemporaneous with Dg Qn 10. Directly across the river from Dg Qn H5 there was a historic sawmill in 1900 and a dam constructed at the beginning of Cascade Canyon in 1898 (see Dg Qn 10). The site is 150 square meters in aerial extent and is being rapidly eroded by the river. At the present sixty-five percent of the site is intact.

CHRISTINA LAKE (SOUTH END) AND CHRISTINA CREEK LOCALITY

Dg Qn 14 is a single circular cultural depression which is most likely a housepit; eight meters in diameter and is shallow. The site is situated in a dense cedar forest at the confluence of Moody Creek into Christina Creek. There were no artifacts located within the site area and no indication of the age of the housepit can be determined - cultural matrix was unobservable. The housepit is undisturbed and is complete and does not appear to experience any future disturbance.

Dg Qn 29 is a general activity site where a large cylindrical maul was found during the construction of a house, just above the shore along Christina Lake at the south end of the lake. The site is presently completely destroyed by housing development in the immediate area. The exact extent of the site is indeterminant. The maul was heavily battered with flake scars on one end, indicating heavy use, possibly wood splitting for construction of a canoe.

Dg Qn 30 is a general activity site located on an upper lake terrace above Christina Lake at the Christina Lake Community Hall and baseball diamond. Evidence of cultural remains consist of two notched projectile points and fire broken rock. The style of the projectile points found indicate a late period (within the last 2,000 years) occupation.

Dg Qn 30 is approximately 900 square meters in aerial extent. The exact dimensions are not known. The depth of cultural deposits is indeterminant. Test excavation is highly recommended for this site due to its constant disturbance. At the present an estimate of sixty percent of the site is intact and there is a ninety percent chance of future disturbance, such as construction of a parking lot and further development of recreation facilities.

KETTLE RIVER LOCALITY

Kettle River locality is situated above (upstream and west) of Cascade Canyon and Falls locality. Since the locality is above Cascade Canyon it is in an area where salmon were absent. The Kettle River is known as N~~x~~wiya7lhpi'tkw in the Colville Okanagan language. The area upstream from Cascade Canyon according to James Teit's (1910 - 1913) Map of Ethnographic Areas is a "boundary" between the Lakes Okanagan and the Okanagan. There is a distinct change environmentally in the area west of Cascade Canyon in comparison to the area below the canyon and at Christina Lake. This environmental variation might have an effect on cultural boundaries or preferences. This locality is located where an aboriginal/historical trail (Dg Qn 26) comes up from Kettle Falls/Fort Colville area and continues along the Kettle River to Rock Creek over the Anarchist Summit to Osoyoos Lake/Fort Okanagan, connecting numerous archaeological sites

Dg Qo 1 is a burial site which was excavated in 1965 (see page 3) and 1976. A report is on file at the British Columbia Provincial Museum Archaeology Division of Barlee's excavation. The site is situated directly on Highway #3 where burials were exposed during and after construction of the highway. The aerial extent of the site is approximately 300 square meters along a sandy ridge above the highway. In 1976 Department of Highways removed a portion of the site. A one day salvage excavation uncovered scattered and fragmented remains of two individuals (see Roberts, 1976). The site is in extreme danger due to the Highway's Department unpredictability. I would highly recommend a salvage excavation of this site with initially test excavations to reveal the extent of the site. About twenty percent of the site is intact with a fifty percent chance of future disturbance.

Dg Qo 2 is a burial site located above the confluence of the Granby River with the Kettle River. Ethnographically the area is known as Nk'mmtsin from Colville Okanagan informant Martin Louie. Mr. Louie states that this is the spot (on the north side; right at the river forks) where Kts'ats'ukw'a killed the Shuswaps in a battle (Bouchard and Kennedy, Personal Communication).

Dg Qo 2 has been excavated by amateurs for the last thirty years. Disturbance by the City of Grand Forks Public Works crew uncovered several burials and artifacts presently located at the Provincial Museum, Victoria.

To date an estimate of twenty burials have been removed from the site, with virtually no information on the extent of the site, its exact location or who has information on the whereabouts of the artifacts and skeletal remains. Very little of the original site remains perhaps ten percent. The site was destroyed by the development of a gravel pit. The future disturbance is high eighty percent, however there is little if anything left of the site.

Dg Qo 4 is a resource utilization site located on an eroded river bank along the Kettle River. The site shows evidence of being a roasting pit. It is 2.5 meters in diameter. There is evidence in the cut bank of firebroken rock, charcoal and butchered bone. Similar features located at Kettle Falls, Washington in excavation have been determined as aboriginal roasting pits (Chance, Personal Communication).

The Colville Okanagan called these pits "snlkiptn". The pit was lined with round volcanic rocks of varying size. A fire of brush, limbs, and pitch was lit on these rocks to heat them red hot. The hot rocks were levelled out with a pole, then a layer of dirt was spread over them, followed by a layer of bark, then five to six inches of fern fronds, skunk cabbage leaves, thimbleberry leaves, rye grass, bunch grass, pine needles, or other vegetation. This vegetation was well dampened. (Elmendorf 1935 - 36 in Turner, Bouchard and Kennedy, 1977).

The site is presently sixty percent intact, however continual river erosion would destroy the remainder of the site. A small excavation of the site would reveal its extent and information on construction. It is not possible to determine the age of the pit.

Dg Qo 5 is a resource utilization site situated within a fracture of diorite on the base of a mountain just north of Dg Qo 4 and Highway #3. The site was utilized as a butchering site where three mountain goat horns, one bighorn sheep horn, and a bighorn mountain sheep ulna were found. Evidence of butchering (cutting) were indicated on the horn cores. An age of 200 - 300 years B.P. can be estimated.

The site is 66 square meters in aerial extent and shows a shallow deposition (30 cm. B.S.). At the present the site is one hundred percent intact. Possible nearby quarry expansion of the diorite deposit is likely in the future.

Dg Qo 9 is an isolated find, possible general activity site located near an extinct river channel of the Kettle River within the city of Grand Forks. During the excavation of a swimming pool a patinated bifacially flaked bipoint was found one meter below the present surface. The aerial extent of the site is indeterminant. Housing development has altered the area somewhat. Test excavation would be the only way to determine the extent of the site. Due to the proximity of the extinct river channel, one meter depth of the artifact, and the patination of the bipoint one can speculate that the find could be placed within Chance' Ksunku Period (4 - 6,000 B.P.).

Dg Qo 9 might yield valuable information pertaining to the early period of occupation within the Kettle River Valley. This site as well as Dg Qn 17 represent early occupation within the Kettle River Valley. I would estimate that eighty percent of the site is intact and that there is a fifty percent chance of future disturbance.

Dg Qo 10 is a general activity site located along the Kettle River five meters above the river in a cultivated field. The site yielded numerous surface artifacts two bifaces, one corner notched chipped point, worked bone, pestle retouched flake, butchered bone, waste flakes, charcoal, and firebroken rock. The aerial extent of the site is 2,200 square meters with a possible depth of 50 cm. The site was recently plowed (spring, 1979) thus disturbing the top 20 cm.; also river erosion has washed away a portion of the bank, exposing a small portion of the site. Presently the site is eighty-five percent intact and will continually be disturbed by cultivation. This site yielded a good sampling of cultural activity and should be tested.

Dg Qo 11 is a general activity lithic scatter site situated on a river terrace (16m. above river) along the north side of the Kettle River just downstream from Dg Qo 10. The site yielded two unprepared cores, four utilized flakes, a scraper, and two retouched flakes. All artifacts were made from black argillite. The extent of the site was quite small with an aerial extent of 845.6 square meters. The site is ninty-five percent intact with twenty-five percent possible future disturbance by the owner. It is not possible to determine the deposition or age of the site.

Dg Qo 12 is a general activity site situated on a river terrace high above the Kettle River (30 meters). The site yielded a bifacially retouched flake and firebroken rock. The aerial extent of the site is

estimated at 100 square meters, the site has been disturbed by the Highways Department and is situated just off of the highway right of way. It is estimated that eighty percent of the site is intact with possible fifty percent chance of being disturbed in the future. I would recommend that this site be test excavated to determine its extent, deposition and chronology.

Dg Qo 13 is a single circular cultural depression 3.8 meters in diameter situated along the Kettle River, located downstream from Dg Qo 11. The depression represents a possible roasting pit, storage pit, or sweat-house. There was no other evidence of cultural activities in the area around the depression. The extent of the site is indeterminant as well as the deposition. The site is completely (one hundred percent) intact and will not likely be disturbed in the future. Due to the lack of diagnostic clues there is no way of determining an age on the site.

Dg Qn 4 is a general activity site with aboriginal and historical occupation. The site is located along the north side of the Kettle River along a trail (Dg Qn 26). The site yielded one gun flint, three cortex spall tools, one chipped point fragment, one biface, nine waste flakes and a piece of porcelain. The gun flint is the same variety distributed by the Hudson Bay Company at Fort Colville (Chance, Personal Communication) and possibly dates from 1821 - 1870. Since the site is located on the aboriginal/historical trail (Dg Qn 26) it seems likely that the site was occupied by people travelling to or from Fort Colville during the mid 1800's. The deposition of cultural deposits is indeterminant. The aerial extent of the site is 500 square meters and is presently seventy-five percent intact with a twenty-five percent chance of being disturbed in the future.

Dg Qn 16 is an isolated find site along the north bank of the Kettle River just upstream from Dg Qn 10 and Cascade Canyon. A mortar was found with other indications of cultural activities. The aerial extent, deposition, and speculation on chronology is impossible to determine.

Dg Qn 17 is a general activity site located on a upper river terrace (30m. above the river) on the south side of the Kettle River upstream from Dg Qn 16. The site is at the location where a trail (Dg Qn 26) crosses the Kettle River (to Dg Qn 20). Six bifaces were recovered (donated) by Mr. Art Twells who home-steaded the area. Four of the artifacts are

stemmed projectile points, two of which are diagnostic of the Ksunku Period (4 - 6,000B.P.) (Chance, Personal Communication) (Kettle Falls Cultural Sequence). The aerial extent of the site is 11,250 square meters. The site is presently under cultivation and is partially disturbed due to land clearing and cultivation. The site is eighty percent intact and chances of future disturbance is twenty percent. I would recommend test excavations at this site to determine the extent of deposition and the cultural activities which occurred at the site.

Dg Qn 18 is a general activity site located along the south side of the Kettle River upstream from Dg Qn 17. The site is situated above the river (10 meters) in a cleared field. A large quantity of firebroken rock was found throughout the site. Butchered bone and waste flakes were also found. Land clearing operations in the past has disturbed the site; the extent of disturbance is difficult to determine at the present it is estimated that sixty percent of the site is intact with a fifty percent chance of future disturbance by cultivation. Cultural deposition is not determinable unless test excavation was carried out. The estimated aerial extent of the site is 900 square meters. Due to the lack of diagnostic artifacts or features an estimate on the age of the site is not possible.

Dg Qn 20 is a general activity site located directly north from Dg Qn 17 across the Kettle River on a river terrace (8 meters) above the river. Numerous artifacts and features were located at this site. Controlled surface collection recovered a corner notched chipped projectile point, pecked cobble, hammerstone, biface, utilized flake, core fragment, broken worked cobble, waste flakes, butchered bone (large mammal, bird bone), glass fragments and porcelain. A large anvil stone was left in situ. A large quantity of battered cobbles were clustered along the river bank. It appears that flint knapping material was being searched for among the river cobbles below the site in the river bed. An age estimate within the last 2,000 years would be appropriate for this site. This would put the site within the Shwayip and Takumakst. Period of the Kettle Falls Sequence.

Dg Qn 20 is situated on aboriginal/historical trail known as the Osoyoos-Okanagan Trail which connects Kettle Falls, Washington with Osoyoos Lake (see Dg Qn 26) the trail crosses the Kettle River at this specific site and Dg Qn 17. This would indicate that Dg Qn 20 and Dg Qn 17 were temporary campsites during seasonal migrations. The aerial extent of the site is 7,625 square meters. Cultural deposition along the river cutbank at

the eastern side of the site shows a depth of 45 cm. below surface. There is a continual, though small amount of erosion taking place at this site due to the Kettle River eroding away portions of the bank. This site, which has been divided into five distinct areas and is one of the largest sites located. Test excavation is highly recommended at this site specifically in areas where river erosion has deteriorated the site. Presently seventy-five percent of the site is intact with a twenty-five percent chance of disturbance by either river erosion or development.

Dg Qn 21 is a general activity site located upstream from Dg Qn 4 on the north bank of the Kettle River. Surface and river erosion has exposed a portion of the site which yielded several artifacts: two cores, three bifaces, one mortar, one utilized flake, three waste flakes, fifteen pieces of butchered bone and firebroken rock. The site is situated along a trail (Dg Qn 26) which inter connects several sites. This site has an aerial extent of 600 square meters. An estimate at possible age would range within the last 2,000 years (Shwayip and Takumakst Periods). The overall site is in good condition with some river erosion and disturbance by a dirt road out into the bank. At the present seventy-five percent of the site is intact with a fifty percent possibility of future disturbance due to future development.

Dg Qn 22 is an isolated find site situated along Dh Qn 26 (trail) above the Kettle River. The site yielded a waste flake. No other indications of cultural activity was noted.

Dg Qn 26 is a general activity site, a trail which connects at least six known sites (Dg Qn 4, 17, 18, 20, 21, and 22) and is known on historical maps as the Colville to Okanagan Trail (Moore, 1873) (also see figure 4) which was a well traveled route during aboriginal and historical periods. During historic period from 1821 - 1870 the trail linked Fort Colville at Kettle Falls with Fort Okanagan and Osoyoos Lake. The extent of the site would be approximately 200 kilometers in length from Kettle Falls, Washington to Osoyoos Lake, following the Kettle River to Rock Creek then over the Anarchist Summit down to Osoyoos Lake. With Dg Qn 17 located on the trail it would indicate possible use of the trail since 4 - 6,000 Years before the present. It is not possible to evaluate the condition of the trail, however one can say that the present condition is almost nonexistent due to recent and historic development of the Kettle River Valley.

Dg Qp 1 is an isolated find site situated on a mountain plateau 1800 feet above the Kettle River Valley. A biface was found on a bulldozed logging road. No other indications of cultural activity was noted.

Dg Qp 2 is a general activity site situated on an upper river terrace 30 meters above the Kettle River. It is situated just upstream from Dg Qo 12 and downstream from Dg Qp 3 and 4. A corner notched chipped point, one core fragment, retouched flake and firebroken rock were located on the surface. The small corner notched chipped point is diagnostic of late periods which would give the site an age within the last 2,000 years B.P. The aerial extent of the site is 1,500 square meters eighty percent of the site is intact and there is a five percent chance of future disturbance by cultivation and development.

Dg Qp 3 is a general activity site located along an upper river bank eleven meters above the Kettle River. It is situated 150 meters upstream from Dg Qp 4. One biface, one biface fragment, one core fragment, one prepared core, one retouched flake and one utilized flake was found; all manufactured from black argillite. No diagnostic artifacts were recovered along with no exposed areas showing soil deposition. The aerial extent of the site is 357 square meters directly along the river bank. Eighty percent of the site is intact with a twenty percent possibility of disturbance by cultivation or development.

Dg Qp 4 is a general activity site located along an upper river bank and adjacent to an extinct creek bed 14 meters above the Kettle River. It is situated between Dg Qp 2 (above and downstream 200 meters) and Dg Qp 3 (150 meters upstream). A total of fifteen artifacts were found on the surface; one biface fragment, one core fragment, one prepared core, eight retouched flakes and four utilized flakes. The site represents a well defined lithic workshop with several large cortical fragments of black argillite. Firebroken rock is also present. No indication of age estimate is possible at this site without test excavations. The aerial extent of the site is 585 square meters and has been divided in three different areas. Eighty percent of the site is intact with a thirty percent chance of future disturbance by cultivation and development.

Dg Qp 4 as well as Dg Qp 2, 3, and Dg Qo 12 represent possible similarities due to the closeness of all four sites. It is conceivable that the same activities were being carried out that could possibly relate to the resource utilization of this area of the Kettle River. Test excavation

could very well reveal connections.

Dg Qq 1 is a general activity site located on Boundary Creek near Greenwood, B.C. Ten waste flakes and several butchering remains were located here in 1976 by Gerry Roberts (Roberts, 1976). The estimated aerial extent is 45,000 square meters which seems like an extremely high estimate. The site will be revisited to determine aerial extent. This site is supposedly within the B.C. Hydro 500 KV Transmission Line and could possibly be disturbed or destroyed. At the present sixty percent of the site is intact with a ninety-five percent chance of disturbance likely by B.C. Hydro.

GRANBY RIVER LOCALITY

The Granby River locality consists of the area 5 kilometers above where the Granby River joins the Kettle River. In Charles Wilson's map of the British Boundary Commission (B.C. Provincial Archives map 615 at W747, 1861) the location of the Granby River has the name Inchwointum which possibly translates to the Colville Okanagan word Nts'wan Aytm which means "place where they have sasquatches". (Bouchard, personal communication). This is a possible yet questionable name for the Granby River area.

A total of five archaeological sites were located within this locality. They are Dg Qo 3, 6, 7, 8, 14, and 15.

Dg Qo 3 is a general activity site situated above the Granby River valley in a basin overlooking Sand Creek and the Granby River Valley. It is situated 2 kilometers north of Dg Qo 15 (quarry site). A total of four artifacts were recovered; one corner notched chipped point, two hammerstones, and an adze. The corner notched chipped point is diagnostically similar to types found in the last 2,000 years. The aerial extent of the site is 15,000 square meters. There is no indication from exposed water line excavations at the site of a defineable cultural matrix. At the present sixty percent of the site is intact with a fifty percent chance of disturbance by uranium mining activities and cultivation.

Dg Qo 8 is a circular depression and petroform site situated 6 meters above the Granby River just outside the city limits of Grand Forks. An anvil stone was found and left in situ. The circular depression is 4.5 meters in diameter. The petroform is 10 meters in length. At the present the site is ninety-five percent intact with a fifty percent chance of being disturbed in the future. It is possible that this site has a historical component due to the heavy historical usage of the area (Granby Smelter and town).

Dg Qo 14 is a general activity site located along the Granby River 1 kilometer upstream from Dg Qo 8. The site is situated on the lake bottom of former Smelter Lake. A total of five artifacts were found; one conical pestle, one pentangular maul, two bifaces and a retouched flake. Due to inundation of the site it is not known the extent of the deposition of probable age of the site. The aerial extent of the site is 1,800 square meters. Present condition is sixty percent intact with thirty percent chance of disturbance due to 1) reconstruction of Smelter Lake 2) cultivation

3) development.

Dg Qo 15 is a resource utilization, black argillite quarry site used in the manufacture of stone tools. The site is situated on a mountain side sloping down towards the Granby River 2 kilometers south of Dg Qo 3. A collection of fifteen samples were obtained two of which show flaking. Numerous pieces were left in situ. The dominant material in the area and at Kettle Falls is black argillite, however much of the material was probably obtained from river cobbles.

Dg Qo 15 could very well have been used extensively and then depleted. The extent of the outcrop of bedded black argillite is 30,000 square meters. The argillite is exposed and easily obtainable. Dg Qo 14 yielded a couple of large pieces of black argillite with the cortex of the material showing. At the present ninety-five percent of the site is intact with a ten percent chance of future disturbance, possibly by mining activities. Preto(1972) contains a map showing this particular outcrop as bedded black and gray argillite which is the only deposit within the Christina Lake, Granby River, and Kettle River(near Grand Forks) area. It was this geological map that instigated investigations within this area for a possible quarry site.

INTERIOR WESTERN HEMLOCK ZONE

CHRISTINA LAKE LOCALITY

Christina Lake locality is known ethnographically by the Colville Okanagan as Nts7am. The name refers to the Lake. The predominant settlement pattern along Christina Lake is orientated along alluvial fans formed by streams flowing into the lake thus forming "points" onto the lake which form ideal habitation sites. Due to the steep narrow valley of Christina Lake the only habitable areas are on these alluvial fans along the lake as well as the immediate south and north ends of the lake. James Teit(1930) states that temporary campsites were situated at Christina Lake.

A total of thirteen archaeological sites were located within the Interior Western Hemlock Zone along the south, east, and north end of Christina Lake. They are Dg Qn 2, 6, 7, H8, 11,12, 13, 15, 19, 23, 28, 31, and Dh Qn 1.

Dg Qn 2 is a general activity site situated at the south end of Christina Lake where Christina Creek flows from the lake; directly across from Dg Qn 9. One cortical flake was found and scattered firebroken rock. Due to inundation from the lake and historical disturbance cultural deposits have most likely been altered thus making it not feasible to date the site. The aerial extent of the site is 1,000 square meters. The cultural matrix is not determinable by surface observation. The site is presently ninety percent intact with a fifty percent chance of disturbance by development through further sawmill expansion or tourist facilities.

Dg Qn 6 is a pictograph site located at Texas Point on Christina Lake. It is situated 200 meters north of Dg Qn H8 and 400 meters south of Dg Qn 7. This site has been previously recorded by John Corner (1968 page 79 - 81). There are three panels evident at the site which are in varied states of preservation. The site is situated on a cliff face of granite, and is just above water level.

The Provincial Parks Branch was contacted and a proposal submitted to Provincial Parks to set up an information display explaining the pictographs and their significance was accepted by them. A drawing of the pictographs, and explanation of the painting's possible meaning, and a brief summary of the native history will be displayed at Texas Point.

Dg Qn 6 at the present is sixty-five percent intact with a fifty percent chance of future destruction. Vandals have shot at the pictographs. A large boulder is presently endangered of falling into the lake. This

should be cemented back into the existing cliff.

Dg Qn 7 is a pictograph site with one main pictograph located 400 meters north of Dg Qn 6. This site was also previously recorded by Corner (1968). This pictograph site as well as Dg Qn 6 will be part of the information display which will be displayed at Texas Point with the approval of the Heritage Conservation Branch. The present condition of this pictograph is ninety percent with a twenty percent chance of destruction by vandals and moss growth.

There is no information from native Indian informants as to the origin of or knowledge of these pictographs on Christina Lake. An estimated age of Dg Qn 6 and 7 would be within the last 500 years.

Dg Qn H8 is a historical site located at Texas Point Provincial Park just 200 meters south of Dg Qn 6. The site consists of a historic homestead (rectangular depressions). This site as well as Dg Qn 6 and 7 were revisited by the Boundary Archaeological Survey. The site is situated on the shoreline of Christina Lake. The site aerial extent is 5,000 square meters approximately. The present extent of the site is ten percent with a fifty percent chance of further disturbance.

Dg Qn 11 is an isolated find, possible general activity site situated on a plateau above Christina Lake near Sutherland Creek in Fife. The site yielded a large corner notched chipped point. Approximate age estimate would be within the last 2,000 years. The aerial extent of the site is indeterminate due to disturbance of the site area. It is rumored that other artifacts have been found in the immediate area. Presently the site is forty percent intact with a fifty percent chance of future disturbance by development and cultivation.

Dg Qn 12 is a general activity site located along Christina Creek 400 meters south of Dg Qn 2 and Dg Qn 9. The site is situated on a creek bench with extensive evidence of cultural activity. A total of ten artifacts, twenty-one waste flakes and twenty-one butchering remains were located. Firebroken rock and charcoal was also evident at the site. Historical remains were also found, consisting of a square head nail and a brass button. The cultural matrix has a depth of 46 cm. B.S. An estimate age would range within the last 1,000 years. The aerial extent of the site is 2,898 square meters. Present condition of the site is ninety percent with a forty percent chance of disturbance by nearby expansion of a sand and gravel pit.

The locality of this site suggests that it was used as a fishing /

campsite. Christina Creek narrows here and has a sand and gravel bed which creates an ideal locality for a fishing weir.

Dg Qn 13 is a general activity site located on Christina Creek 150 meters south of Dg Qn 12. The site is situated 5 meters above Christina Lake on a terrace. Three waste flakes and firebroken rock were found eroding out of the terrace bank. Cultural matrix within the exposed terrace bank shows a depth of 25 cm. B.S. Age estimate by soil deposition would be within the last 2,000 years. The aerial extent of the site is 150 square meters. Presently seventy-five percent of the site is intact with a fifty percent chance of disturbance by development.

Dg Qn 15 is a general activity, trail site located along the east side of Christina Creek which connects Dg Qn 12, 13, and possibly Dg Qn 2 and extends south to the confluence of Christina Creek and the Kettle River. Dg Qn 15 could possibly link up with Dg Qn 26, the Colville-Okanagan trail. The trail is well defined north of Dg Qn 12 and is distinguishable to the Kettle River. The aerial extent of the trail measures approximately 2,100 meters in length; this is the extent that is noticeable. The present condition is sixty percent intact and there is a forty percent chance of future disturbance by development and logging.

Dg Qn 19 is a circular cultural depression situated 30 meters above Christina Lake at English Point on an upper lake terrace. The probable housepit is 9 meters in diameter and is 1.2 meters in depth. A few trees are growing out of the depression one of which is at least 50 years old. The aerial extent of the site is 400 square meters and is one hundred percent intact with a fifty percent chance of disturbance by land development. The site is certain to be disturbed at some time in the future. The owner may build a house on or near the site or may sell the land.

James Teit's Lake Indian informants (1904 - 1909) say that they (pithouses) were used to a considerable extent by them long ago. They say that none of the oldest lake people now living ever used them, but they have been described by their parents some of whom lived in them. (Teit 1930, page 226).

Kwts'i7 is the Colville-Okanagan word for pithouse (Bouchard and Kennedy, 1979).

Dg Qn 23 is a circular cultural depression site with a housepit and a cache pit situated at the confluence of McRae Creek into Christina Lake 1 kilometer west of Dg Qn 19. According to the owner there were originally 5 housepits at the site, four of which were destroyed by construction of a

house. The housepit is 9.35 meters in diameter and 1 meter in depth. The cache pit is 1 meter in diameter. The aerial extent of the site is 600 square meters. Presently the site is twenty-five percent intact with the one housepit and cache pit left of the original site. There is a ninety-five percent chance of further disturbance by the owner.

Numerous housepits were excavated at Kettle Falls, Washington which have indicated a distinctive difference from Teit's description of housepits. The main difference is structural variance of entrance locations and main vertical support beams (see Chance 1977, page 57).

Dg Qn 28 is a general activity site located at Lavalley Point on Christina Lake north of the confluence of Sutherland Creek and Christina Lake. The site yielded numerous projectile points according to Mr. Skand (a local resident). A stone pestle was also found by Mr. Skand. The site was primarily confined to the beach area with an original aerial extent of 64,525 square meters. This is an estimate since the exact extent of the site could not be determined due to the extensive land development of the site area.

Due to the extensive development of the area the site is more or less completely destroyed with possibly five percent intact and a one hundred percent chance of disturbing the remainder of the site area.

Dg Qn 31 is a general activity area located on Christina Lake where Baker Creek flows into Christina Lake. Two notched chipped points were found by Mr. Harrison. The aerial extent of the site is 21 square meters along the beach area. At the present thirty percent of the site is intact with a ten percent chance of future disturbance. Cultural matrix is indistinguishable from beach sand and gravel.

Dh Qn 1 is a general activity site situated at the north end of Christina Lake along the beach and shoreline 200 meters to the east of the confluence of Sandner Creek and Christina Lake. Waste flakes, firebroken rock, and charcoal was found at the site. Numerous artifacts have been recovered by local residents. The aerial extent of the site is 4,000 square meters. The cultural matrix exposed along the shoreline is 25 cm. B.S. presently fifty percent of the site is intact with a one hundred percent chance of future disturbance due to the development of a resort.

Dh Qn 1 is situated where an aboriginal trail connects Christina Lake and Arrow Lakes. According to early white residents at Christina Lake the

"Indians" use to travel down from the Arrow Lakes to Christina Lake and down to Kettle Falls. There is a Colville Okanagan story of Nnilús told by Martin Louie about an overland route from Arrow Lakes to Kettle Falls (on file British Columbia Indian Language Project).

INTERIOR DOUGLAS FIR ZONECHRISTINA LAKE

The Interior Douglas Fir Zone lies along the south and west side of the lake. A total of seven archaeological sites were recorded Dg Qn 1, 9, 32, 33, 35, and Dh Qn 2 and 3.

Dg Qn 1 is a circular cultural depression site located at Lighthouse Point 19 meters above Christina Lake. Originally the site was recorded as having petroforms, however no evidence of these were noted. Upon revisiting the site three probable cache pits were found 1.5 meters in diameter. A large anvil stone was also found and left in situ. The aerial extent of the site is 105 square meters with ninety percent of the site intact and a fifty percent chance of future disturbance. No age estimate is determinable.

Dg Qn 9 is a general activity site situated at the south end of Christina Lake where Christina Creek begins flowing from the lake. The site is directly across the creek from Dg Qn 2. Eight waste flakes, four pieces of firebroken rock and one butchering remain were recovered from a disturbed area. A stone pestle was found by a resident of the area. No age estimate is determinable. The aerial extent of the site is 672 square meters which is probably an underestimate. The site area is on a developed section of beach within the townsite of Christina Lake. Presently twenty-five percent of the site is intact with a fifty percent chance of destruction by more development.

Dg Qn 32 is a general activity site situated along Christina Lake at the southwest corner of the lake. One small drill bowl and one chipped notched point were found by the owner. Numerous other artifacts were found here by others. The chipped notched point would place the occupancy possibly within the last 2,000 years. The aerial extent of the site was 4,000 square meters. The condition of the site is zero percent intact (one hundred percent destroyed).

Dg Qn 33 is an isolated find site located on Moody Creek 1 kilometer south of Dg Qn 32. A large bipoint was found near the creek along a dirt road. The exact aerial extent of the site is indeterminate due to the site being an isolated find. The condition of the site area is fifty percent intact with twenty-five percent chance of future disturbance by erosion and vehicles. The projectile point found here is similar to those found at Dg Qn 17 and Dg Qo 9 which are assumed to be from the Ksunku Period (4 - 6,000 B.P.).

Dg Qn 35 is a pictograph site situated on a rock face facing east on Christina Lake 1.5 meters above lake water level. There are two panels (see figure 5) 1.53 meters x .38 meters and .42 meters x .47 meters. Both panels are in good condition with a small portion broken off one of the panels. At the present the pictographs are eighty percent intact with a ten percent chance of being disturbed by moss growth and vandalism. This site is one of three pictograph sites located along Christina Lake, the other two being Dg Qn 6 and 7.

Dh Qn 2 is a general activity site located on the east side of Christina Lake 100 meters south of the confluence of Red Ochre Creek and Christina Lake. This area could also have been utilized as a resource utilization site in the acquisition of red ochre for facial painting and pictographs. A chipped point base, two retouched flakes, waste flakes and several battered cobbles were found. The battered cobbles were left in situ. It is not possible to date the site due to the lack of diagnostic artifacts and features. The aerial extent of the site is 375 square meters. Presently the site is seventy-five percent intact with thirty percent chance of disturbance by recreational development.

Dh Qn 3 is a circular cultural depression site and possible resource utilization area situated 15 meters south of the confluence of Seggie Creek into Christina Lake. Four circular depressions (possible storage pits) were found situated above the creek. The storage pits were 1.8 meters; 1.4 meters; 1.2 meters; and 2.2 meters in diameter. The site represents a possible resource utilization area at Seggie Creek where spawning salmon or other fish were caught and stored. There is also evidence of historical remains with the remnants of a log cabin and debris. No age estimate can be given except for the historical occupation which was within the last 100 years. The aerial extent of the site is 450 square meters. The present condition of the site is ninety percent intact with a fifteen percent chance of future disturbance by B.C. Forest Service.

SITE DENSITY AND SETTLEMENT PATTERN

As of June 1, 1979 a total of ninety-seven archaeological sites have been recorded within the Kettle River drainage area (seventy-six sites within Canada). Fifty-nine of these sites were located (in Canada) within the Grand Forks-Christina Lake area. An average of 1.3 sites per river (lake) kilometer represents the site density within the Grand Forks-Christina Lake area (Kettle River, Granby River, and Christina Lake). Using this estimate of 1.3 sites per river (lake) kilometer a total of three hundred and twelve archaeological sites are situated within the Kettle River drainage area along the major rivers and lakes from headwaters to the confluence of the Kettle River and Columbia River in British Columbia and Washington State. A total of one hundred and seventy-three sites are calculated in British Columbia. This sampling estimate is only confined to the Kettle River Valley, Granby River Valley, Christina Lake, Curlew Creek, and Curlew Lake and does not include upland montane areas and small creeks and lakes situated above the valley bottoms.

The prehistoric settlement pattern within the river valleys, lakes and upland montane areas will be distinctively different. This would result in different site densities for the different areas. Another postulation reflects on the aboriginal activities and settlement patterns of the Colville Okanagan (Sxweyi'7lhp) and the Lakes Okanagan (Sngaytskstx).

"The early (historical) reports recognized not only the linguistic similarities between the Lakes and Colville, but also the cultural differences, primarily those features determined by a lake as opposed to riverine environment. The Lakes were said to be trappers and hunters, traveling about in small groups, where as the Colville were thought of as a more cohesive group centered about the Kettle Falls Fishery." (Bouchard and Kennedy, 1979).

Father Joesph Joset notes that the Colville people were "salmon eaters" whereas the Lakes Indians were nomadic trappers subsisting primarily on bear and deer (Joset, N.D. in Bouchard and Kennedy, 1979).

It would appear that due to geographical locations and aboriginal cultural differences that site densities and settlement patterns would differ noticeably within river valleys, lakes, and upland montane areas.

The location of Dg Qn 26 (Colville - Okanagan Trail) (Moore 1873) (Wilson 1861) and sites Dg Qn 4, 17, 20, 21, 22, and Dg Qo 1 indicate a

well established trail dating possibly to the Ksunku Period 4 - 6,000 B.P. The area is presumed to be a well travelled route through the Kettle River drainage area to and from Kettle Falls on the Columbia River and the Okanagan Valley (east-west route). The Christina Lake area was a well travelled route via Arrow Lake to and from Kettle Falls (north-south route). The latter is evident from a Colville Okanagan legend referring to an overland trail from Arrow Lakes to Kettle Falls (Legend of Nnilu's) and from a local resident of Christina Lake (Wiebe, personal communication). The predominate settlement pattern in the area strongly suggests temporary seasonal occupation (campsites) along the Kettle River, and Christina Lake. There is only evidence at Christina Lake of a minor permanent settlement (Dg Qn 23).

PRIORITIES AND RESOURCE MANAGEMENT RECOMMENDATIONS

CASCADE CANYON AND FALLS LOCALITY : Dg Qn 3, 36, 24, 25, 27, 34, 10, and H5

The archaeological resources at Cascade Canyon represents an important aspect of the archaeological resources of the Kettle River drainage area and is most likely the most important locality of the area in relation to 1) extensive occupation and aboriginal use 2) antiquity 3) yield of archaeological data. Past historical activities within the area has disturbed and destroyed a portion of the archaeological sites. This area is a high priority locality and should by all means be preserved. The area is protected at the present at the Canyon and at sites Dg Qn 10 and H5 which is crown land. To the east of the Canyon future development is likely by private land owners. The most significant sites are Dg Qn 3, 36, 24, and 34.

CHRISTINA LAKE, CHRISTINA CREEK LOCALITY: Dg Qn 1, 2, 6, 7, H8, 9, 11, 12, 13, 14, 15, 19, 23, 28, 29, 30, 31, 32, 33, 35, Dh Qn 1, 2, and 3.

The archaeological resources at Christina Lake are almost completely deteriorated due to the heavy disturbance and destruction by recreational development along the Lake. Only a few sites remain which should be either preserved or excavated. These are Dg Qn 1, 11, 12, 13, 14, 19, 23, and Dh Qn 1, 2, and 3. Dg Qn 19 and 23 are in extreme danger of being destroyed by development. These sites represent the only two large housepits found on Christina Lake.

KETTLE RIVER LOCALITY: Dg Qo 1, 2, 4, 5, 9, 10, 11, 12, 13, Dg Qn 4, 16, 17, 18, 20, 21, 22, 26, Dg Qp 1, 2, 3, and 4.

The archaeological resources along the Kettle River are in varied states of condition. Unlike Christina Lake most of the sites are predominately intact with minor disturbance by cultivation, however the valley from Christina Lake to Grand Forks is rapidly being subdivided since there is a demand for river bottom land. Sites in extreme danger are Dg Qo 1, 9, 10, 11, 12, Dg Qp 3 and 4. They are in areas that are developed and along Highway #3.

GRANBY RIVER LOCALITY: Dg Qo 3, 6, 7, 8, 14, and 15.

The archaeological resources along the Granby River are all in good condition with minor disturbance from cultivation (except for Dg Qo 8 which is completely destroyed). Dg Qo 3 is threatened by continual cultivation

and uranium exploration / mining.

It is difficult to predict which sites are going to be disturbed or not. At any time disturbance or destruction can occur no matter how isolated or remote the site is. During the survey the construction of a house occurred about 30 meters from Dg Qp 3 a day after the site was discovered. Due to the site's confined area it was not disturbed. The area as a whole has not been bothered to any extent by looters "digging for artifacts". There has always been the assumption that there were no Indians here. There are a few individuals with minor collections from the area who are noted on the site forms.

Ralph Wolverton a ninety-one year old man who settled at Christina Lake in 1900 possessed the photograph of native people fishing below Cascade Falls included within this report. He also has a single toggle harpoon point used in 1910 to spear salmon (see FIG. 6+7).

The most effective way of conserving and managing the archaeological resources within the Kettle River drainage area is outlined in the following:

- 1) All property owners should be notified of archaeological resources on their properties. They should be questioned about whether they will develop the land and if so would they contact the Heritage Conservation Branch about the proposed development.
- 2) Public awareness - it is important to educate the public of the significance of archaeological sites as a part of the heritage of British Columbia and Canada; and that site preservation is important. This can be done by public talks, newspaper articles, films, school presentations, word of mouth, and by the excavation of a site (showing the public what archaeology is all about).
- 3) Setting up a warden system here and communicating openly with the various government agencies.

