Punchaw Village: A Preliminary Report Archaeology of a Prehistoric Settlement

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This is a preliminary report on archaeological research carried out by the Simon Fraser University field school, under my direction, between May 20 and July 20, 1973. Analysis is still largely incomplete and a full description of results is not yet possible.

The Setting

The 1973 field school was centered at the Punchaw Lake site (FiRs 1) 35 miles southwest of Prince George in the Blackwater district of north-central British Columbia. Punchaw Lake is about 1 mile in diameter and is drained by Tako Creek into the West Road (or Blackwater) River near its confluence with the Fraser. The surrounding region consists of forested rolling uplands incised by the West Road, Nechako, and Fraser Rivers, and dotted with innumerable small lakes and patches of muskeg. Vegetation is transitional between that of the Chilcotin Plateau and the Boreal forest, with dominant species including Douglas fir, lodgepole pine, and black spruce. Present mammalian resources include mule deer, moose, black bear, bobcat, beaver, and hare, as well as numerous smaller species. This assemblage has undergone considerable modification since the beginning of the historical era, including the arrival of moose in the early 20th. century, replacing woodland caribou (Kew 1973:17), and the disappearance of grizzly bear and wolf. Although major sockeye runs ascend the Fraser River to Stuart Lake, this species is apparently rare to nonexistant in the West Road River system. However trout and several varieties of coarse fish are plentiful in all lakes and streams.

Ethnohistory

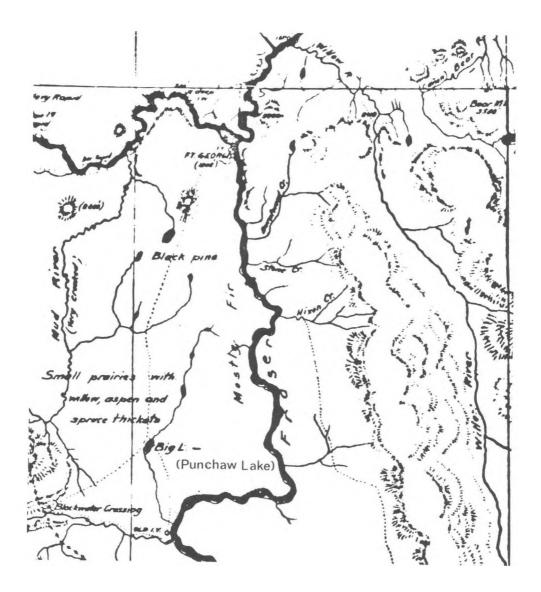
The Punchaw Lake site is within the traditional territory of the "Naskutin" band of the southern Carrier Indians, with their principle village near the confluence of the West Road and Blackwater Rivers (Morice 1904:21; Kew: pers. comm.). Alexander Mackenzie observed "an encampment of three families" on the eastern side of Punchaw Lake in 1793, but the site with which we are concerned was probably not occupied at that time.

An elderly member of the Nazco band,

and apparently the last surviving Naskutin, recalled camping at the Punchaw Lake site about 1900 for spring fishing in the creek. This person also noted that there had been a burial ground somewhere in the southwestern part of the site which was in use up until about 1870. Despite considerable search we were unable to precisely pin-point the location of this graveyard, even though it was apparently marked by the ruins of a grave-house or other structure until fairly recently.

Fig. 7.

The ethnographic lifeway of the Carriers involved extensive seasonal mobility. Although references are somewhat inconsistent it seems that during winter small family groups hunted and trapped from campsites chosen for their shelter and proximity to firewood. In the spring the people moved to lakes to take trout and coarse fish, nucleating in larger groups later in the summer for the salmon fishery. This pattern involved seasonal transhumance over distances up to 250 miles (Kew 1973:18), necessitating well-developed communication mechanisms. Travel throughout the vast extent of Carrier territory was facilitated by a complex system of overland trails. Donahue (1974) has noted the value of these trails for explaining and predicting archaeological site distributions, but in general little attention has been paid to overland communication in the Interior of British Columbia despite the known significance of native trails to the initial Euro-Canadian explorations. FiRs 1 is located at the junction of major north-south and east-west elements of the Carrier trail network (Fig. 7) (Morice 1904) — a situation which may provide a partial explanation for the size and cultural richness of this site.





The Site

The Punchaw Lake site occupies over 54,000 sq. m. (about 14 acres) of the steep northwest bank of Tako Creek, at the outlet of the lake. The site was first reported in 1965 by the then district land-surveyor at Prince George, who had obtained a small artifact collection from the area. The limits of the site are defined by aspen-cottonwood parkland which stands in marked contrast to the surrounding dense coniferous forest (Fig. 8).

Surface cultural features include 43 houseplatforms, 57 storage pits, and a 100 m. segment of a native trail running east-west across the center of the site. The house-platforms are level to slightly dished oblong areas averaging about 8x6 m. in size excavated into the slope, and are entirely different than southern Interior pithouses. Excavations are shallow - although deepest on the up-hill side - and lack recognizable raised lips or rims. It must be noted that these features are only visible as minor breaks in the natural slope of the hill-side, and would not be easily detected in naturally level regions. Consequently it is entirely possible that other houses exist undetected along the flat terrace benches of the site.

The storage pits are circular depressions under 2 m. in diameter and of varying depth. Most occurred in distinct clusters around the margins of the site-clearing, although a number were also associated with the house-platforms. Ethnographic data indicate that most pits of this type were probably used in the storage of dried fish and other foodstuffs.

The section of native trail was re-located by the Naskutin informant who remembered it as part of an important route between the Fraser and West Road Rivers. Although heavily overgrown, the path was clearly defined as a deeply worn trough-shaped rut. There is no doubt that this is a true aboriginal feature of a type rarely noted today, but of considerable importance to the regional settlement pattern. There seems equally little doubt that Sir Alexander Mackenzie walked this same path on his overland journey to the Pacific in 1793, giving it considerable historic as well as prehistoric interest. The informant noted that the trail divided near the northeastern corner of the site, with one branch going north to the Prince George area and the other arm swinging southwest to the West Road River - both approximately paralleling the present route of the Blackwater road. A third less important trail followed the west bank of Tako Creek, eventually joining another path along the north side of the West Road River (Fig. 7).

Field Procedures

Specific field activities included the following:

1. Precise mapping of FiRs 1 to indicate the spatial relationships of cultural and natural features (Fig. 8).

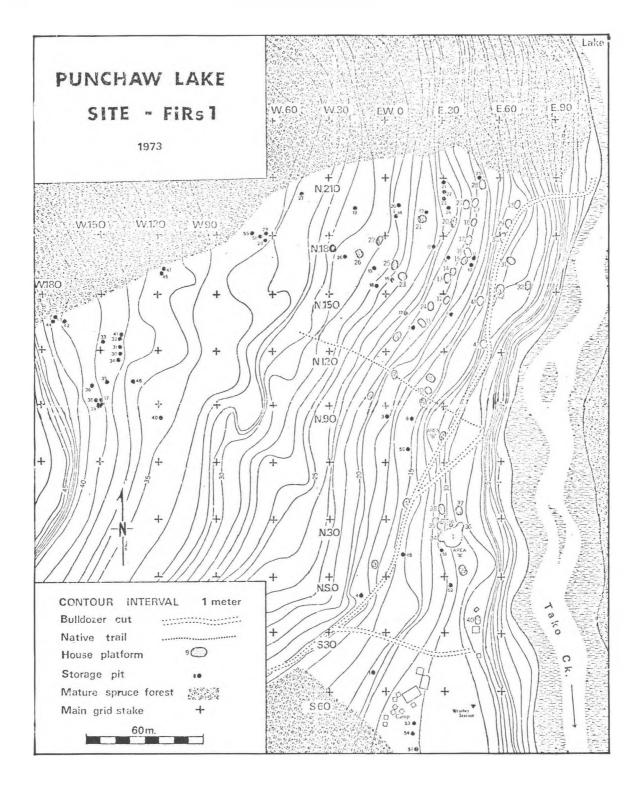
2. Sampling and plotting of ancillary data potentially related to intra-site variations in cultural activities. This was accomplished by dividing the site into $65\ 30x30$ m. main grid units designated by north-south and east-west co-ordinates. Within this main grid system we undertook:

- a. A total count of all trees, per species, for each 30x30 m. unit.
- b. Collection of a core, by 14" Swedish increment borer, from the largest conifer in each main grid square.

- c. Identification, counting, and plotting of up to 50 non-arboreal species from 3x3 m. units systematically selected within the main grid.
- d. Collection of soil samples from each of the main grid intersects for chemical analysis.
- e. Measurement of the depth of soil development and cultural deposition at each of the main grid intersects.

3. Recording of the physical attributes of the surficial cultural features. This included the completion of individual 5 cm. contour maps for most of the house-platforms, and measurement of the main dimensions and orientation of the storage pits.

4. Complete excavation of house-platform 1;



complete excavation of the remainder of houseplatform 2; and 1 or 2 $2x^2$ m. test units in houseplatforms 34, 36, and 43, and storage pit 50.

During excavation we aimed for precise in situ proveniences on all cultural materials, including modified tools, flakes over 1 cm. in maximum dimension, and potentially identifiable faunal remains. These were recorded three-dimensionally employing a field coding system designed for computerized sorting and plotting. 5. Recording the microclimatic characteristics of the site with a full range of meteorological instruments throughout the duration of the project.

6. Construction of a half-scale replica of a Carrier summer house, paying particular attention to labour expenditure, raw material requirements, and the effects on the site environment. 7. Collection of contemporary fauna from the site environs.

8. Intensive surveying of the area within a 20 mile radius of Punchaw Lake, including foot or boat reconnaissance of most adjacent or adjoining drainages.

Results

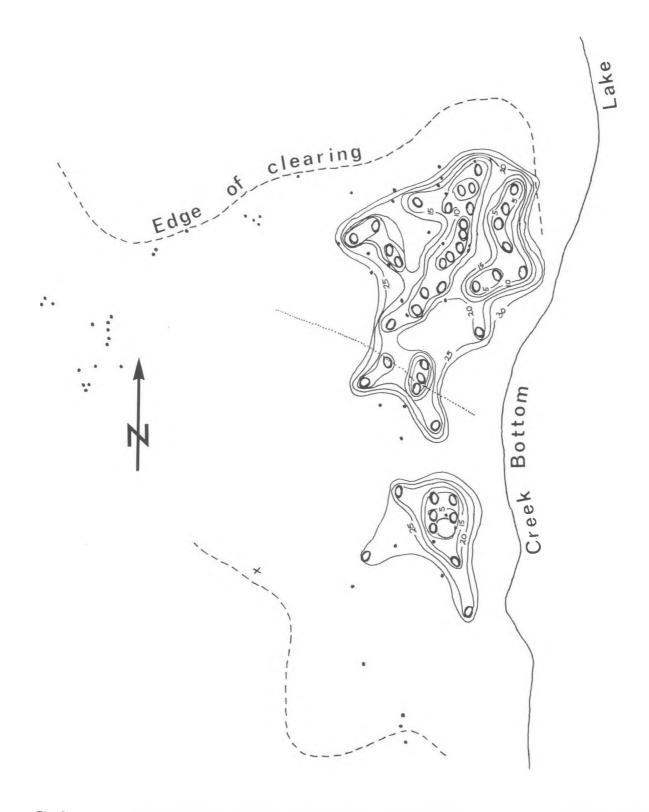
Floral Analysis and the Horizontal Limits of Cultural Activity

A problem common to the analysis of multi-dwelling archaeological sites is that of the identification of contemporaneous occupation units, i.e. which houses were lived in at the same time. Plotting the spatial proximity of the Punchaw Lake house platforms employing 5 m. isobars of separation produces a number of apparently significant clusters (Fig. 9). At greater than 40 m. separation all house-platforms fall into 2 major clusters, with a southern group of 10 houses centered around house-platform 1, and a northern group of 33 centered about 150 N., 30 E. on the main grid. The northern group is divisible into a number of pronounced linear clusters paralleling the slope. Although no test of statistical significance has yet been applied, these clusters appear sufficiently distinct to provide some hypotheses about the spatial arrangement of past occupations. However, it should be noted that simple spatial proximity may be an indicator of cultural groupings only to a certain minimum level, whereafter some rule of optimum social distance may take precedence, Various floral and pedological sampling procedures conducted within the main grid framework were designed to provide a test of the cultural reality of the presumed house clusters, and to determine the total horizontal limits of past cultural activities.

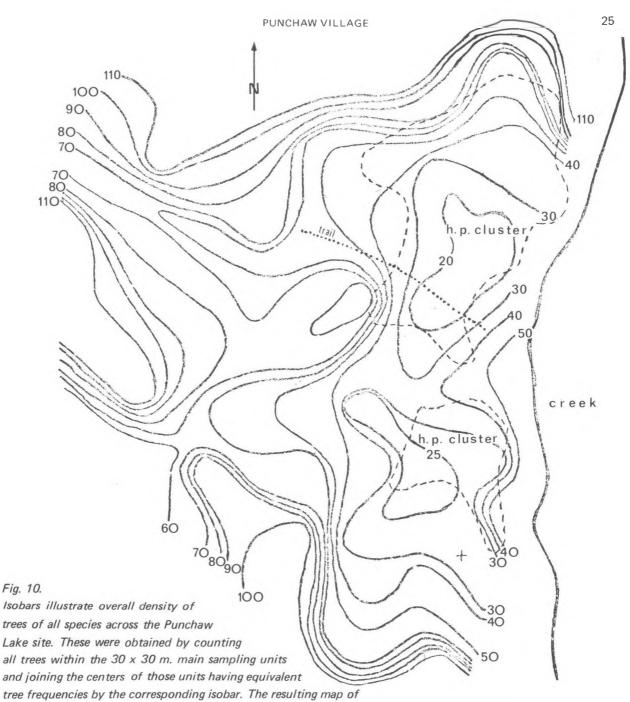
In the Prince George region the climax stage of arboreal succession is marked by a dense coniferous forest with a species composition controlled by micro-environmental factors. Through time, an abandoned clearing will develop a climax forest by the successive replacement of initial floral communities (herbs-shrubsdeciduous trees) by encroaching conifers, barring any further significant disturbance. Thus total tree density per unit area, ratio of coniferous to deciduous species, and age distribution should directly reflect the state of arboreal succession as a function of time and the boundaries and extent of past clearings. This will only hold true given a relatively stable environment, in areas cleared recently enough that arboreal succession has not attained complete equilibrium with surrounding areas. Thus, on an archaeological site meeting these requirements, the present arboreal community should directly reflect the extent and intensity of aboriginal clearing activity.

Plots of tree density, percentage of conifers, and maximum conifer age were drawn up for each of the main sampling units across the Punchaw Lake site. These plots independently agree in showing two separated areas of minimum arboreal succession corresponding with the two main house-platform clusters. A tongue of older, more developed forest intrudes between these areas from the western margin of the site.

The plot of overall tree density (Fig. 10) reveals a number of lobate areas of low tree density radiating from the areas of minimum density, as well as a narrow strip of reduced tree occurence extending into the northwestern part of the site to the limits of the mapped area. These features probably reflect aboriginal harvesting of the forest for firewood and construction materials, with the narrow strip corresponding precisely to the projected extension of the



The distribution of cultural features (ovals – house-platforms; dots – storage pits; dotted line – native trail) at the Punchaw Lake site. Five meter isobars of spatial separation define two main groupings of house-platforms, with internal linear clusters in the main northern grouping.



overall tree density points out the following distributional anomalies: (a) sharply increasing tree frequencies at the margins of the site apparently indicate the limits of the latest aboriginal clearing; (b) areas of minimum tree density closely correspond to the two main groupings of house-platforms; and (c) linear areas of relatively low tree density extending northwest and southwest from the main site correspond to the ethnographically reported extensions of the aboriginal trail system.

northwestern arm of the native trail system. It should be noted that the experimental replication of a half-scale Carrier house required the destruction of 80 young spruce trees, either cut for structural members or girdled for bark, and it is clear that construction of several full size houses would have resulted in significant forest clearing. The two areas of minimum tree density probably reflect those parts of the site most recently occupied - test excavation for historical artifacts in these areas would verify this hypothesis. Finally, the anomalous area of low tree density at the extreme southwest corner of the site map may provide a clue to the position and extent of the "lost" historic burial ground. Tree species ratios, and maximum conifer age provide supporting data for the density plot, showing that it is a function of natural succession, and not late disturbance or intra-site micro-environmental factors.

The value of close observance of the modern vegetation in the analysis of the spatial extent of late aboriginal occupations seems clear from this study. Not only do tree distributions provide precise limits for the maximum site-clearing — boundaries not accurately recognizable without systematic tree counts — but they allow the formulation of strong hypotheses concerning the location of cultural clusterings and specialized use areas such as wood harvesting zones and trails.

Arboreal species appear considerably more useful in these analyses than do herbs and shrubs, with the non-arboreal forms exhibiting no significant spatial patterning across the site. Analysis of soil samples is at an early stage although results to date indicate variations in pH and some chemical elements along horizontal transects.

Stratigraphy

Cultural stratigraphy in the excavated areas was relatively shallow, averaging about 30-40 cm., with deposits up to 1 m. thickness in up-hill portions of house-platforms. Strata tended to be indistinct and discontinuous, characterized by lenses of dark soil intercalated with layers of wood ash and silt. Sterile subsoil varied between a compact yellow gravellysilt in house platform 1 to loose sandy gravel in house-platform 2.

Excavated Features

The most common excavated feature were post molds, with over 220 occurring in houseplatform 1 alone. Here they formed a loose pattern around an approximately 8x6m. subrectangular area with long-axis orientated northeastsouthwest, All post-molds were shallowly excavated into the subsoil around the periphery of the house-platform. There is no doubt that these posts result from more than one period of construction within house-platform 1, and possible alignments are illustrated in Fig. 11. Any late posts placed in the center of the platform would not have penetrated subsoil and hence would not have been detected during excavation, limiting evidence for multiple building to the peripheral areas. Even so there seems to be clear indications of different wall orientations and shapes, including what may have been an enclosed end entrance way during one phase of construction. Most post molds were under 20 cm. in diameter and less than 15 cm. deep, with angles varying considerably. Although styles may have changed through time, one gets an overall impression of light self-supporting A-

frame structures, bark or skin covered, partially sunk into the slope with vertical or apsidal down-slope walls.

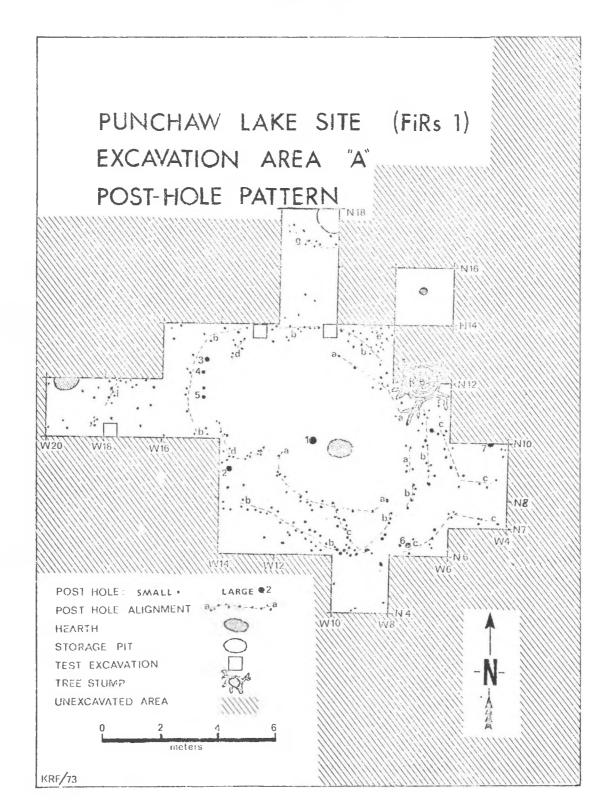
A large hearth area was situated near the center of the post-mold enclosure in house platform 1, continuing throughout the entire depth of cultural deposits. Upper layers of the hearth were characterized by small scattered firebroken rocks, with ash and calcined bone concentrations. The lowest hearth stratum consisted of large rocks carefully piled in a restricted circular area, with less ash and fewer and larger bone fragments. As with the post-molds the hearth clearly results from successive occupations restricted within the limits of an original house-platform excavation.

Other features included flake and tool clusters and caches around the periphery of the post mold enclosure, as well as concentrations of butchered faunal material near the hearth. The more limited data from other excavation areas indicate a similar pattern of features to that in house-platform 1.

Burials

Four human burials were encountered during excavation; all were left *in situ* or re-

buried to comply with the wishes of the Fort George native band, PUNCHAW VILLAGE



Burial 1 was a young infant found on the main occupation floor of house-platform 2. The bones were slightly scattered and exhibited no evidence of deliberate placement or interment. Mingled with the bones were 3 basalt arrowpoints: 1 multiple side notched, 1 stemmed, and 1 triangular.

Burial 2 consisted of a complete flexed adult interment in an ovate pit excavated into the subsoil directly beneath the lowest hearth stratum in house platform 1. The skeleton lay on its right side facing north or upstream towards the lake. The highly worn and incomplete dentition is that of an elderly individual; no grave goods were associated and sex is not known at the present time. A C-14 date of 3,980 \pm 100 B.P. (Gak-4907) was obtained on a sample of carbonized organic material collected near the skull.

Burial 3 was found in a poorly defined pit excavated below the lowest occupation floor of house platform 36. The completely disintegrated skeleton was visible only by shadow-stains of the long-bones and preserved tooth crowns. However this was sufficient to identify a young robust adult or adolescent, lying on his (?)

A total of 6,200 items were recorded in situ from the $32\frac{1}{2}2x2$ m. excavation units. Of these 40-50% are estimated to be modified tools; the rest consist of unmodified flakes and faunal remains. The vast majority of artifacts are flaked of vitreous basalt, with argillite-andesite, chert, chalcedoney, and ignimbrite-obsidian also well represented.

Projectile Points

Approximately 101 projectile points complete enough for classification were recovered from the excavations. These have been sorted into 8 provisional classes based on outline form:

Class	Total	Basalt	Chert	Chal	Obsid
Leaf shaped	11	9	2		
Square based	6	4	1	1	
Stemmed	10	10			
Fish tail	4	3	1		
Corner notched	22	16	5	1	
Large side notched	7	6	1		
Triangular	10	10			
Small side notched	31	27	1	1	2
Total	101	85	11	3	2

right side in a flexed position, facing south. Near the hands in front of the face was a cache of associated tools, including a large leafshaped basalt biface; several large unmodified basalt flakes; and traces of a bone or antler object which may have been a haft for one of the other tools. A small rock-ringed hearth was situated about 30 cm. above the burial in the grave-pit.

Burial 4 consisted of only a few partially charred cranial and long-bone mid-shaft fragments scattered among the stones of the lower portion of the main hearth in house-platform 1. These indicate an adult or sub-adult, but are too fragmentary for further identification.

The association of interments with hearths may indicate winter burials. Morice (1904:308) notes that during the small-pox epidemic of 1862 "corpses were hurridly buried in the fireplaces where the ground was free of snow and frost". The stratigraphic superpositioning of an apparent cremation (burial 4) over a full interment (burial 2) may suggest a change in burial practices through time, although the sample is obviously insufficient to clearly illustrate the mortuary norm at any given period.

Artifacts

Leaf-shaped points have pointed or rounded bases, and one specimen carries pronounced basal edge-grinding. Length 9.4-3.6 cm.;; width 2.9-1.5 cm.; thickness 1.0-0.4 cm.

The square based variety includes forms ranging from pentagonal to incipiently stemmed. Lower lateral edges tend to be parallel forming sharp right angles with a straight base. Several of these specimens are slightly reminiscent of Plano in their lanceolate outline form. However, a relatively small size, cruder workmanship, and lack of edge-grinding clearly distinguishes these Paleo-Indian point styles. Length 3.7–2.7 cm.; width 2.1–1.9 cm.; thickness 0.7–0.5 cm.

Stemmed points are characterized by straight to slightly-contracting stems with straight to excurvate basal edges. Shoulders are rounded and shallow. Length 5.0-2.4 cm.; width 2.2-1.6 cm.; thickness 0.8-0.4 cm.

The fish tailed points are distinguished by markedly concave bases — a characteristic almost totally lacking in the rest of the assemblage — and wide, shallow side notches. Basal "ears" tend to be sharply pointed. Length 4.5-3.3 cm.; width 2.1-1.8 cm.; thickness 0.7-0.4 cm.

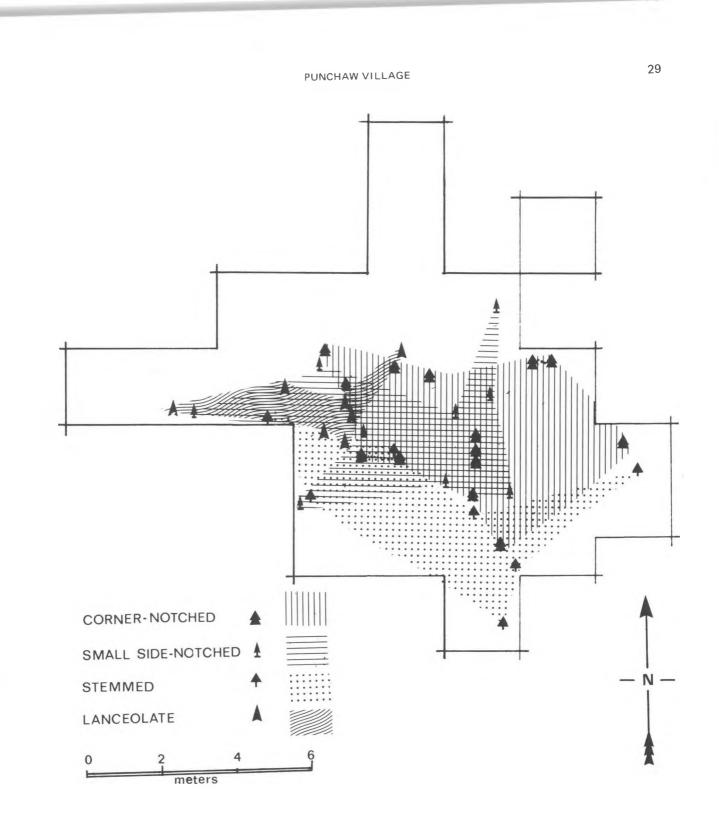


Fig. 12.

The corner notched classification ranges from one basally notched specimen to others intermediate with large side notched and stemmed varieties. The majority are characterized by acute shoulder angles, with short, wide stems, and straight to excurvate basal edges. Length 7.3-3.1 cm.; width 3.3-1.6 cm.; thickness 0.6-0.4 cm.

The large side notched points may be variants of the corner notched continuum, but are for the moment described separately. With one exception these are crude stubby points with shallow side notches, wide necks, and straight bases. The exception is a long tapering point with small well defined side notches, wide neck, and a single basal thinning flake carrying half the length of one face. Length 4.4–1.8 cm.; width 2.4–1.4 cm.; thickness 0.5–0.3 cm.

The triangular points are probably preform stages for small side notched and corner notched varieties. These are short wide triangular forms with straight to excurvate edges. Length 3.9-1.9 cm.; width 3.3-1.1 cm.; thickness 0.5-0.2 cm.

The small side notched points are typical of late projectile point styles throughout the Interior of British Columbia. Bodies have straight to excurvate edges; notches are deep and necks narrow; and basal edges are uniformly straight to slightly excurvate. Two specimens are deeply serrated or multiply side notched on one edge, and two others are asymmetrically notched with a short trailing stem. Length 3.4-1.9; width 1.8-1.1; thickness 0.5-0.2 cm.

The stratigraphic relationships of these point styles have yet to be completely analyzed. However preliminary results for house platform

1 indicate that most small side notched points were found in the highest strata, with most leaf shaped and square based forms occurring in the lowest strata. A provisional horizontal plot indicates that these point styles have a remarkably exclusive distribution — unfortunately associations with other artifact classes are not vet determined.

Other Flaked Stone

The rest of the chipped stone assemblage is dominated by varieties of unifacially retouched flakes; side and end scrapers; awls and drills; amorphous bifaces; quartzite cortical spall tools; and small flake cores. A number of basalt and chert microblades and well made macroblades attest to a blade industry; however, no definite blade cores were found.

Ground Stone

All stone artifacts were chipped, with the exception of rare fragments of flaked and ground adze blades of fine grained green argillaceous rock; one carved fragment of soft grey-black argillite, decorated with an incised cross hatched design; two fragments of ground slate knives; and rare abrasive stones. No heavy pecked and ground stone implement were found.

Bone and Antler

Artifacts of non-lithic materials were very scarce despite generally excellent bone preservation. Examples include mid-fragments of two different bilaterally barbed bone points. Both are thin, narrow, and carry small closely spaced barbs. A number of simple ground bone point fragments were also found, as well as several fragments of bone decorated with dot-and-circle designs; a large antler wedge; and a shell-disc bead.

Euro-Canadian Artifacts

The total collection of non aboriginal artifacts consists of the blade of a Northwest Company trade hatchet found in house platform 34; a piece of beaten and rolled brass; and a small fragment of corroded iron from the uphill portion of house-platform 1.

Chronology

From a paleoenvironmental standpoint there seems to be no reason why the Punchaw Lake area could not have been occupied for at least the last 8–9,000 years. However there is no clear cut evidence from the 1973 project to indicate man's presence prior to about 4,000 B.P.

At the present time 5 radiocarbon dates

are available from the excavations. The earliest is the sample associated with burial 2 which yielded a date of $3,980 \pm 100$ B.P. (Gak-4907). There is no apparent cause to dispute the validity of this date, although it is earlier than was expected for this well preserved burial, and it is assumed to provide an approximation of the age of the oldest occupation in house platform 1. A second carbon sample produced a date of 560 ± 75 B.P. (Gak-4905) in the upper zone of house platform 1. Storage pit 50, just outside house-platform 1 excavated through spoil from the last occupation of the house, yielded a wood charcoal date of 290 ± 70 B.P. (Gak-4906), although a provisional dendrochronological correlation had suggested a date of about 1830 A.D. for the wood in this feature. A date of 250 ± 70 (Gak-4908) was obtained just below ground

A full description of the specific results of site surveying must await a later paper. In general, archaeological reconnaisance around Punchaw Lake revealed the following pattern: 1. Over 40 sites were located within a 20 mile radius of Punchaw Lake. Sites were found in greater frequency than expected, given the environmental and cultural relationships of the area.

2. No other site approached the size and cultural "intensity" of the Punchaw Lake site. surface in house platform 2; and house platform 43 yielded a date of 240 \pm 70 B.P. (Gak-4909) on charcoal from the main occupation floor.

Maximum tree age in the site clearing is about 150 years. Allowing a number of years for the initiation of tree growth this correlates fairly well with the latest 3 radiocarbon dates to suggest that the last *major* occupation of the site occurred between 1700 and 1800 A.D.

Site Survey

Maximum number of house features found at any other site was 8.

3. Adjacent portions of the Fraser River possess relatively few sites in comparison to lesser drainage elements such as Tako Creek and the West Road River.

4. A significant number of sites were located on high terraces or considerable distances from water. Such sites are characterized by a surface scatter of flaking debitage in areas possessing commanding over-views of major river valleys.

Summary

From a cultural historical perspective the 1973 research at Punchaw Lake represents a further step in the gradual uncovery of the prehistory of north central British Columbia, adding to the pioneering investigations of Borden (1952a), Wilmeth (1971) and Donahue (1973). Of more direct significance, the village at Punchaw Lake represents an important fragment of the unwritten history of the Carrier people. In a province where the opulence of the coastal cultures has tended to overshadow the achievements of all other peoples, awareness of the size and contents of sites like Punchaw Lake may serve to focus archaeological and public attention on the almost forgotten cultural traditions of the northern Interior.

Finally, from the standpoint of academic archaeology, the principle contribution of the project may lie in some aspects of its methodology. Systematic floral analysis and systematic intrasite soil sampling have revealed preliminary results more than justifying the time-labour expenditure involved. Indeed, one can imagine future archaeology involving intensive analysis of the attributes of the total site - as though it were a macro-artifact before full scale excavation is even considered. In addition, the information potential represented by full provenience records on all cultural materials - i.e. not merely modified "tools" is clearly so significant that there should be no excuse for less rigorous field methods in anything but the most hurried of salvage projects. On a more general level, the complete excavation of cultural units, such as house areas, provides the only available means for the testing and critical evaluation of incomplete sampling procedures. The blanket application of any simple non-discriminating, unstratified, statistical sampling procedure must be considered unjustified until such tests are thoroughly conducted.

ACKNOWLEDGEMENT

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