Archaeological Overview Assessment – Parcels 27, 56, 57, and 68, Sun Peaks Resort

January 26, 2022

Prepared for:

Peter Nixon
Real Estate Development Manager
Sun Peaks Resort
1280 Alpine Road
Sun Peaks, BC, V0E 5N0

Prepared by:

Stantec Consulting Ltd.
500-4515 Central Blvd.
Burnaby, BC, V5H 0C6

ARCHAEOLOGICAL OVERVIEW ASSESSMENT – PARCELS 27, 56, 57, AND 68, SUN PEAKS RESORT

This document entitled Archaeological Overview Assessment – Parcels 27, 56, 57, and 68, Sun Peaks Resort was prepared by Stantec Consulting Ltd. ("Stantec") for the account of Sun Peaks Resort (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by _____
(signature)

Melissa Scott, BA

Reviewed by _____
(signature)

Erin Davison, MA, RPCA

Approved by _____
(signature)

Rob Commisso, PhD, RPCA

Executive Summary

At the request of Sun Peaks Resort, Stantec Consulting Ltd. (Stantec) conducted an archaeological overview assessment (AOA) of land parcels 27, 56, 57, and 68 proposed for development in the municipality of Sun Peaks, British Columbia (the study area). The study area is approximately 40 kilometers (km) northeast of Kamloops and 13 km northwest of Chase, and approximately 5 km southeast of the summit of Mount Tod (Figure 1). The study area is within the territory of the Adams Lake Indian Band, Little Shuswap Lake Band, Neskonlith Indian Band, Simpcw First Nation, Skeetchestn Nation, Shuswap Indian Band, Splats'in First Nation, and Tk'emlups Nation (Consultative Areas Database, November 18, 2021).

The objectives of the AOA were to:

- identify previously recorded archaeological sites, if present, within the study area
- identify and assess the potential for unrecorded archaeological sites within the study area
- assess potential development-related impacts to archaeological sites
- determine the appropriate methods and scope of work for subsequent archaeological studies, if needed.

The AOA included a background review of relevant information sources regarding the biophysical, archaeological, ethnographic, and historical setting of the study area. The results of the background information review were used to provide an assessment of archaeological potential within the study area.

No previously recorded archaeological sites are located within the study area. Several archaeological studies have been completed within the vicinity of the study area, including eight desktop-based overview assessments and six field-based assessments. These studies illustrate that areas of elevated archaeological potential are present within the greater study area and are most commonly associated with level or gently sloping terrain in an otherwise steeply sloping environment. Ethnographic information pertaining to the study area illustrates the importance of Mount Tod and high elevation environments in the greater study area for hunting game and harvesting roots and various plant species.

Based on the results of this study, there is potential for unrecorded archaeological sites to be present within the study area. A preliminary field reconnaissance (PFR) is recommended to refine the desktop evaluation of archaeological potential. If the PFR identifies areas of archaeological potential which cannot be avoided, it is recommended that an archaeological impact assessment (AIA) be conducted under a Heritage Conservation Act Heritage Inspection Permit prior to any construction activities.

Table of Contents

EXECUTIVE SUMMARY ..... **I**

ABBREVIATIONS ..... **III**

1.0 INTRODUCTION **1**

2.0 PROPOSED PROJECT **3**

3.0 METHODS **5**
3.1 BACKGROUND INFORMATION REVIEW 5
3.2 ARCHAEOLOGICAL POTENTIAL ASSESSMENT 5

4.0 RESULTS **6**
4.1 BIOPHYSICAL SETTING 6
4.2 ARCHAEOLOGY 9
4.2.1 Archaeological Sites Near the Study Area 9
4.2.2 Previous Archaeological Studies 9
4.3 ETHNOGRAPHICAL SETTING 12
4.4 HISTORY 14

5.0 EVALUATION OF ARCHAEOLOGICAL POTENTIAL **15**

6.0 RECOMMENDATIONS AND CLOSURE **16**

7.0 REFERENCES **17**

LIST OF TABLES

Table 1 Previous Archaeological Studies 10

LIST OF FIGURES

Figure 1 Study Area 2
Figure 2 Land Parcels 4
Figure 3 Review of LiDAR Imagery 8

Abbreviations

AIA	archaeological impact assessment
AOA	archaeological overview assessment
BP	before present
ESSF	Engelman Spruce Subalpine Fir
Ha	Hectares
HCA	*Heritage Conservation Act*
ICH	Interior Cedar Hemlock
km	Kilometer
m	Meter
MFLNRORD	Ministry of Forests, Lands, Natural Resource Operations, and Rural Development
MS	Montane Spruce
PFR	Preliminary Field Reconnaissance
RAAD	Remote Access to Archaeological Data
Stantec	Stantec Consulting Ltd.

1.0 INTRODUCTION

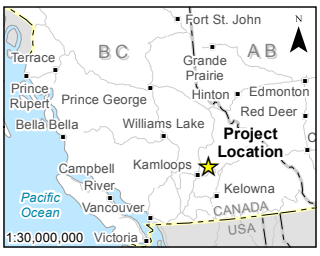
At the request of Sun Peaks Resort, Stantec Consulting Ltd. (Stantec) conducted an archaeological overview assessment (AOA) of land parcels 27, 56, 57, and 68 proposed for development in the municipality of Sun Peaks, British Columbia (the study area). The study area is approximately 40 kilometers (km) northeast of Kamloops and 13 km northwest of Chase, and approximately 5 km southeast of the summit of Mount Tod (Figure 1). The study area is within the territory of the Adams Lake Indian Band, Little Shuswap Lake Band, Neskonlith Indian Band, Simpcw First Nation, Skeetchestn Nation, Shuswap Indian Band, Splats'in First Nation, and Tk'emlups Nation (Consultative Areas Database, November 18, 2021).

Heritage sites and objects on private and Provincial Crown land in British Columbia are protected under the *Heritage Conservation Act (HCA*), which is administered by the Archaeology Branch of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNRORD). Heritage resources specifically protected by the HCA include Provincial heritage sites, burial places, aboriginal rock paintings or carvings, sites with evidence of human habitation or use before AD-1846, and heritage wrecks. The Lieutenant Governor in Council may also make regulations to define the extent of types of sites protected by the HCA. Archaeological and historical sites are places which indicate past human occupation or use. Archaeological sites are those which can be investigated primarily by archaeological methods such as excavation whereas historical sites can be studied not only by archaeological methods but also through the analysis of written records.

There are usually three stages to the archaeological impact assessment (AIA) and review process: overview assessment, impact assessment, and impact mitigation. The overview assessment is intended to identify and assess heritage resource potential or the likelihood that sites are present. The objectives of the impact assessment are the identification and evaluation of heritage resources within a proposed development area and the assessment of possible impacts by the development on these sites. Impact mitigation is any course of action that results in the reduction or the elimination of the adverse impacts of a development. Mitigation usually involves site protection, project redesign or systematic data recovery, often involving archaeological excavation.

The present study was designed to satisfy the objectives of an overview assessment (Archaeology Branch 2009). The objectives of an AOA are to:

- identify previously recorded archaeological sites, if present, within the study area
- identify and assess the potential for unrecorded archaeological sites within the study area
- assess potential development-related impacts to archaeological sites
- determine the appropriate methods and scope of work for subsequent archaeological studies, if needed.



Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada

- Road
- Local Street
- Resource Road
- Trail
- Transmission Line
- Topographic Contour
- Watercourse
- Waterbody
- First Nations Reserve
- Provincial Park, Ecological Reserve, or Protected Area
- Municipal Boundary
- Study Area
- Previously Recorded Archaeological Site

0 0.5 1 1.5 2 2.5 3 km

1:80,000 (at original document size of 8.5x11)

Stantec

Project Location:
Sun Peaks,
British Columbia

Project Number: 123221892
Prepared by PKASIANCHUK on 20211217
Requested by MSCOTT on 20211126

Client/Project/Report
Sun Peaks Resort
Archaeological Overview Assessment
Parcels 27, 56, 57, and 68,

Figure No.
1

Title
Study Area Location

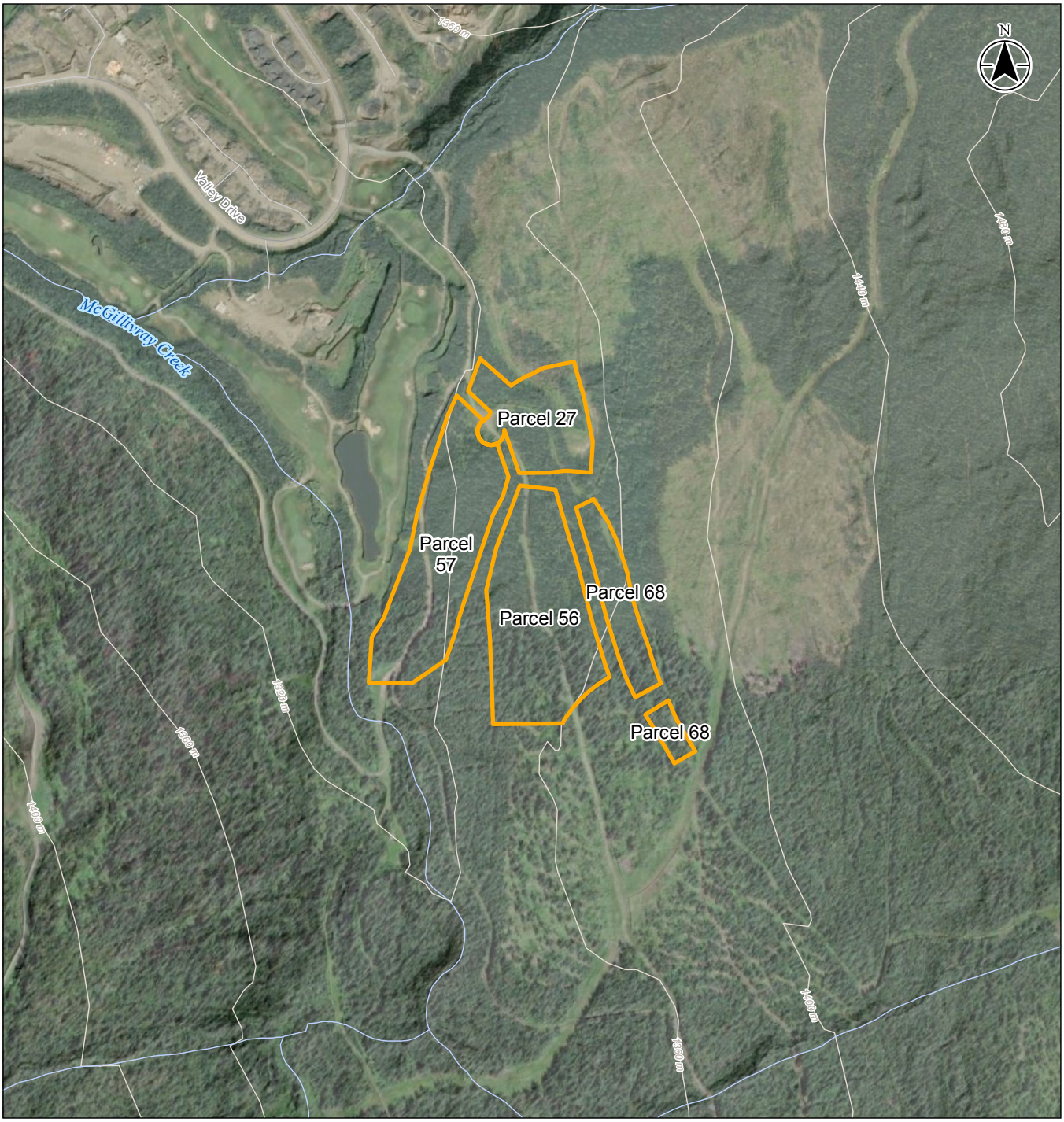
S:\1232\projects\123221892\figures\reports\AOA\fig_123221892_AOA_001_Project_Location.mxd Revised: 2021-12-17 By: pkasianchuk

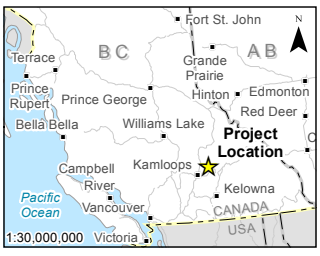
2.0 PROPOSED PROJECT

The proposed project consists of the residential development of four parcels of land, parcels 27, 56, 57, and 68, located to the south of Valley Drive in the Sun Peaks East Village area (Figure 2). The development of thirteen single family lots are proposed within parcel 27, townhouse and condominium developments with a currently undetermined number of units are proposed within parcels 56 and 57, and approximately 13 single family lots are proposed within parcel 68.

The study area is defined by the four parcels and totals 10.24 hectares (ha). Parcel 27 is the northernmost parcel and totals 1.81 ha. Parcel 56 is bound to the north by parcel 27, to the east by parcel 68, and to the west by parcel 57 and is 3.71 ha. Parcel 57 is the westernmost parcel and is 3.42 ha. Parcel 68 delineates the southeast portion of the study area and is approximately 1.3 ha.

The study area is approximately 28 m east of McGillivray Creek, 425 m north of a tributary of McGillivray Creek running southeast to northwest to the south of the study area, and 260 m south of a tributary of McGillivray Creek running southeast to northwest to the north of the study area. The McGillivray Lake Trail bisects the study area crossing parcels 27 and 56.





Road
Local Street
Topographic Contour
Watercourse
Municipal Boundary
Study Area

0 100 200 300 400
Meters
1:8,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada

Stantec

Project Location:
Sun Peaks,
British Columbia

Project Number: 123221892
Prepared by PKASIANCHUK on 20211217
Requested by MSCOTT on 20211126

Client/Project/Report
Sun Peaks Resort
Archaeological Overview Assessment
Parcels 27, 56, 57, and 68,

Figure No.
2

Title
Study Area

3.0 METHODS

3.1 BACKGROUND INFORMATION REVIEW

Stantec undertook a review of relevant environmental, archaeological, ethnographical, and historical data to identify previously recorded archaeological sites and to evaluate the potential for the presence of unrecorded archaeological sites within the study area. The following information sources were reviewed:

- Provincial Heritage Register through the Remote Access to Archaeological Data (RAAD) application maintained by the Archaeology Branch, last accessed November 24, 2021
- Previous archaeological studies within and near the Project area accessed through the Provincial Archaeological Report Library (PARL), maintained by the Archaeology Branch, last accessed November 24, 2021
- Stantec's internal report library
- Relevant biophysical and ethnographic data
- Relevant historical records and documents
- LiDAR imagery

This report was provided to the Adams Lake Indian Band, Little Shuswap Lake Band, Neskonlith Indian Band, Simpcw First Nation, Skeetchestn Nation, Shuswap Indian Band, Splats'in First Nation, and Tk'emlups Nation for review and comment.

3.2 ARCHAEOLOGICAL POTENTIAL ASSESSMENT

Key factors considered in the assessment of archaeological potential included: proximity to hydrological features, known archaeological sites and site distribution in the area, terrain features typically associated with archaeological sites, Indigenous or historical trails, vegetation cover, and the presence of fish and wildlife habitat. The results of previous archaeological studies in the vicinity were also considered in the assessment of potential. An AOA by Muir et al. (1994)for the Kamloops Forest District, Land, and Resource Management Planning region, which includes the Mount Tod area was considered during the assessment of potential but was not relied upon as the study does not conform to current AOA standards.

4.0 RESULTS

4.1 BIOPHYSICAL SETTING

The study area is within the Thompson Plateau of the Southern Interior Plateau of the Cordilleran Region of BC. The last major glaciations began here about 19,100 years before present (BP) with decay of the Cordilleran Ice Sheet commencing between 13,000-10,000 years BP, leading to the formation of glacial lakes within the valleys dissecting the Interior Plateau (Clague 1981; Johnsen and Brennand 2004; Mathewes 1985). Deglaciation was followed by the reestablishment of flora and fauna, beginning with upland areas which were initially treeless and consisted of pioneer grasses (Hebda 1982). Between 12,000 and 10,000 years BP upland areas gradually became forested and valley bottoms were deglaciated and populated by grasslands (Hebda 1982). A climatic shift brought warmer and drier conditions around 10,500 years BP and is indicated by vegetation composition characterized by an increase in Douglas fir, grasses, and sage and a decrease in pine species (Mathewes 1985). It is likely that forested areas were restricted to upper elevations during this period which gave way to cooler, moister conditions some 8,000-7,000 years BP (Hebda 1982, Mathewes 1985). These conditions persisted until some 3,000 years BP when the climate became slightly drier influencing the vegetation boundaries we see today. Present day drainages in an ice-free setting were established some 8,900 years ago (Fulton 1969). Based on the recent glacial history of the study area, mid-elevation and high elevation areas provided ice free, vegetated environments by about 12,000 years BP may have provided attractive environments for early human settlement in the area (Muir et al. 1994).

Surficial geology within the study area has largely been mapped by airphoto interpretation and is classified as undivided deposits consisting of glacial, fluvial, and lacustrine environment deposits with ridged or kettled topographic expressions interspersed with large rock outcrops or areas of near-surface rock (Fulton et al. 1974). More specifically, the study area is situated within a U-shaped valley to the southeast of Mount Tod and east of Mount Morrisey. The study area is characterized by relatively level to moderately sloping terrain with a western aspect. A review of LiDAR imagery of the study area illustrates that a significant portion of the study area consists of terrain with a slope of 10° or less (Figure 3). The nearest hydrological feature is McGillivray Creek, which runs north-south approximately 28 m from the western boundary of the study area. Numerous other named and unnamed tributaries drain into McGillivray Creek from upland and alpine areas in the greater area.

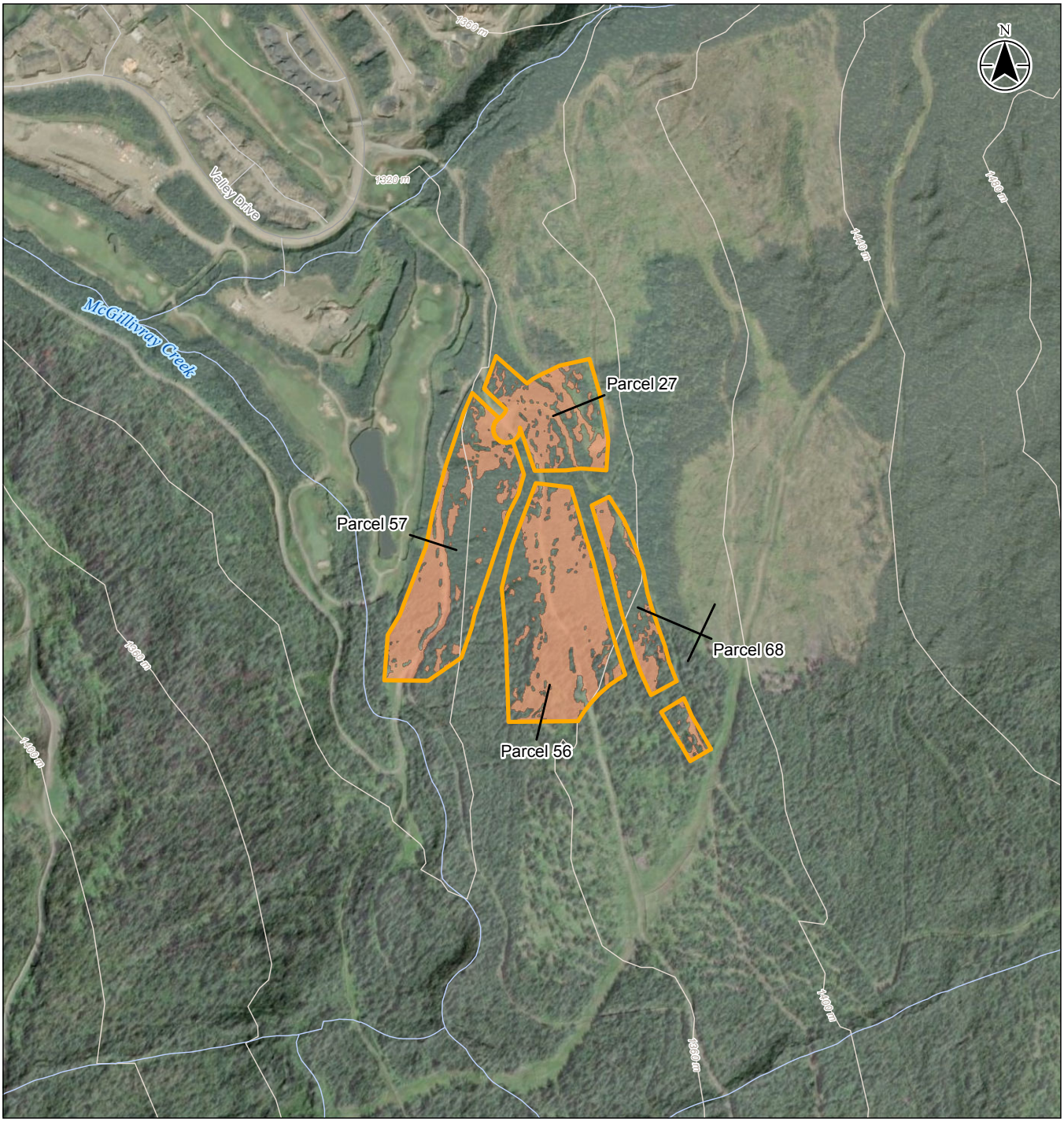
The region supports a diversity of ecological zones that change drastically with variations in elevation. The biogeoclimatic zones in the greater study area include the Interior Cedar-Hemlock (ICH), Interior Douglas Fir (IDF), Ponderosa Pine (PP), Montane Spruce (MS), and Englemann Spruce-Subalpine Fir (ESSF) zones.

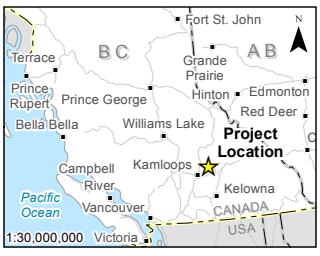
The mean elevation of the study area is 1335 m, above the drier valley-bottom climate and below higher elevation sup-alpine and alpine forest communities and falls within a small pocket of the ICH zone moist cool subzone (mk) and is bound by the ESSF and MS zone. The ICH zone is found at lower to middle elevations ranging from 400-1500 m (Ketcheson et al. 1991).

The ICH is characterized by an interior, continental climate that is dominated by easterly moving air masses producing cool wet winters and warm dry summers. The zone is one of the wettest in the interior of the province. The hydrology of the ICH is greatly influenced by significant snow melt, which minimizes soil moisture deficits making it the most productive forest zone in the interior of the province. Given that the ICH is primarily characterized by steeply sloping terrain, wetlands are infrequent. However, extensive riparian areas and lakeshore marshes are associated with the abundant waterways, lakes, and reservoirs found throughout the zone.

The ICH has the highest diversity of tree species of any biogeoclimatic zone in the province. Western redcedar and western hemlock are the most prominent species in mature climax forests, and grand fir is common in the southern reaches of the zone. Additional coniferous species common within the ICH zone, especially in areas of cold air drainage, ponding, or at higher elevations, include white spruce, Engelmann spruce, their hybrids, and subalpine fir. Seral species include lodgepole pine, trembling aspen, and paper birch. Common understory and groundcover species include northern oak fern, devil's club, rosy twistedstalk, falsebox, spiny wood fern and various species of mosses. Within the mk subzone western redcedar, Douglas fir, lodgepole pine, hybrid white spruce, and subalpine fir dominate the overstory, while the shrub and herbaceous layers are dominated by falsebox, bunchberry, queen's cup, black huckleberry, twinberry, and several moss species.

Fauna important to Indigenous groups found within the ICH include moose, elk, mule deer, white-tailed deer, black bear, grizzly bear, coyote, cougar, yellow-bellied marmot, golden eagle, bald eagle, and ruffed grouse. Furbearing species include wolverine, marten, and red squirrel. Additional species found in riparian zones and around lakes and streams within the ICH include gray wolf, lynx, badger, beaver, muskrat, Canada goose, and several species of birds, reptiles, and amphibians. A variety of freshwater fish are found in the lakes and streams of the area while anadromous fish are plentiful in the major rivers and spawning streams in the greater study area (Carl et al. 1959).





Road
Local Street
Topographic Contour
Watercourse
Study Area
Level to Gently Sloping Terrain --10° or less

0 100 200 300 400
Meters
1:8,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada

Stantec

Project Location:
Sun Peaks,
British Columbia

Project Number: 123221892
Prepared by PKASIANCHUK on 20211217
Requested by MSCOTT on 20211126

Client/Project/Report
Sun Peaks Resort
Archaeological Overview Assessment
Parcels 27, 56, 57, and 68

Figure No.
3

Title
Review of LiDAR Imagery

4.2 ARCHAEOLOGY

The following section provides a brief discussion of previously recorded archaeological sites and site distribution near the study area, as well as previous archaeological studies completed in the area. For a discussion on site types and a regional prehistory of the Thompson-Shuswap region see the AOA previously completed by Stantec for the Client (Gallagher and Perdue 2014).

4.2.1 Archaeological Sites Near the Study Area

No previously recorded archaeological sites are located within the study area. The nearest recorded archaeological sites, EeQw-19, EeQw-20, EeQw-26, EeQw-27 and EeQw-28 are approximately 10 km southwest of the study area on the northwestern end of Niskonlith Lake. These sites consist of a complex of housepit depressions, cache pits, and surface lithics.

Site distribution in the greater area is concentrated around the region's major river systems and complex of large lakes including the North and South Thompson Rivers, Shuswap Lake, Adams Lake, Little Shuswap Lake, and Niskonlith Lake. Though a dense distribution of sites surrounds these water bodies and reflects the archaeologically rich setting of the greater area, few sites have been recorded near the study area within mid-high elevation terrain.

4.2.2 Previous Archaeological Studies

Several archaeological studies have been completed near the study area (Table 1) These include eight desktop-based overview assessments (AOA) and six field-based assessments consisting of preliminary field reconnaissance (PFR) and AIA studies and are described below. The results of these studies were reviewed and considered in our assessment of archaeological potential within the study area.

Table 1 Previous Archaeological Studies

Year	Title	Assessment Type	Reference
1994	Archaeological Overview of the Kamloops Forest District, Land and Resource Management Planning Region	AOA	Muir et al. 1994
2000	Archaeological Overview Letter Report, Proposed Mt. Morrissey Expansion	AOA	Lackowicz and Handly 2000
2003	Archaeological Assessment Orient Ridge	AOA	Ball 2003
2011	Archaeological Preliminary Field Reconnaissance Report, Forest Health Treatment Units 1-4 and 6-9 and Fuel Treatment Units 5, 7, 12A, 12B and 15	PFR	LeBourdais 2011b
2011	Archaeological Preliminary Field Reconnaissance Report, Forest Health and Fuel Management Mount Morrisey West	PFR	LeBourdais 2011a
2013	Archaeological Impact Assessment of the Gills Development Area, Sun Peaks	AIA	Perdue 2014b
2014	Archaeological Overview Assessment of Amended License of Occupation #337752 Controlled Recreation Area	AOA	Gallacher and Perdue 2014
2014	Archaeological Overview Assessment of the Morrisey Bridge Crossing, Sun Peaks	AOA	Perdue 2014a
2018	Archaeological Overview Assessment for Land Parcels 34, 35, 36A, 70 and Associated Roads, Sun Peaks Resort	AOA	Young 2018
2018	Preliminary Field Reconnaissance of Lot 36A Road Sun Peaks Resort	PFR	Davison 2018
2018	Archaeological Overview Assessment of Proposed Snow Making Reservoir, Chairlifts, Power Trench-Lines and Ski Runs at Sun Peaks Resort	AOA	Grieve 2018
2019	Preliminary Field Reconnaissance of Two Proposed Reservoir Options and a Chair Lift Development Area at Sun Peaks Resort	PFR	McKnight and Davison 2019
2021	Preliminary Field Reconnaissance for Sun Peaks Resort's Sundance Bike Park and Mount Morrisey Trail Networks	AOA	Dirmeitis and McKnight
2021	Archaeological Over Assessment – Proposed Chairlift Installation in the West Bowl Area, Sun Peaks Resort	AOA	Scott 2021

Arcas Consulting Ltd. conducted an AOA for the Kamloops Forest District, Land, and Resource Management Planning region, which included the Mount Tod area (Muir et al. 1994). The purpose of the study was to compile and synthesize information regarding the distribution of archaeological sites in the study area. It also identified (on 1:250 000 scale maps) areas of high and low archaeological potential.

An AOA was completed for the proposed Sun Peaks Resort expansion area on Mount Morrisey, approximately 2 km southwest of the current study area (Lackowicz and Handly 2000). Three areas of archaeological potential were identified within the proposed expansion area. Further archaeological work was recommended if land altering activities were proposed within the areas of archaeological potential.

Altamira Consulting Ltd. completed an AOA for the Orient Ridge, approximately 1 km north of the current study area on the north side of McGillivray Creek and the east side of Mount Tod (Ball 2003). No areas of archaeological potential were identified during the 2003 AOA due to extreme slope conditions, and no further archaeological work was recommended for the Orient Ridge.

Two PFR surveys were conducted within the Mount Morrisey area, approximately 2 km southwest of the current study area (LeBourdais 2011a and 2011b). No archaeological sites were identified during the studies. Field surveys determined assessed the Mount Morrisey blocks as having low archaeological potential as well as most areas located in the Forest Health Treatment Units and Fuel Treatment Units located to the west of Sun Peaks Mountain Resort Municipality. However, an AIA was recommended for two proposed fuel treatment units.

Stantec completed an AOA for a proposed ski lift and run development in the Sun Peaks Resort Municipality (Gallacher and Perdue 2014) approximately 5.5 km northeast of the current study area. The original AOA study area was proposed in 2013 and included an area adjacent to Mount Tod. The study area was subsequently expanded in 2014 to include an area referred to as Gills development area. Gallacher and Perdue (2014) details the results of an AOA for these two areas. One area of high archaeological potential was identified during the AOA. An AIA was completed for this area under Ministerial Order M-252-2013 (Perdue 2014b). AIA fieldwork identified two discrete areas of high archaeological potential (STL 1 and STL 2). Subsurface testing was completed at these two areas and no archaeological materials were identified. No further archaeological work was recommended for the Gills development area (Perdue 2014b).

Stantec completed an AOA for the proposed Morrisey Bridge Crossing in 2014, approximately 1.3 km northwest of the current study area (Perdue 2014a). No areas of archaeological potential were identified.

Stantec completed an AOA of land parcels and associated roads located along Valley Drive (immediately south of the Orient Chair area) and along Sun Peaks Road (2 km south of the Crystal Chair Lift) within the Sun Peaks Resort Municipality (Young 2018). Parcel 36a which was included in the AOA is located immediately north of the current study area. One area of high archaeological potential was identified during the AOA. Subsequently a PFR was completed to refine the assessment of archaeological potential within parcel 36A (Davison 2018). No archaeological resources were identified during the PFR and the area was assessed to have low archaeological potential. No further work was recommended for the project.

Stantec completed an AOA of proposed snow making reservoir, chairlifts, power trench-lines and ski runs at Sun Peaks Resort which included the Orient Chair and associated power lines located approximately 1 km north of the current study area (Grieve 2018). The AOA identified several areas of archaeological potential based on the presence of relatively level terrain and terrain characteristics and features commonly associated with archaeological sites. A PFR was completed to refine the assessment of potential for the two proposed reservoir locations and Crystal Chair Lift (McKnight and Davison 2019). Two areas of archaeological potential identified by the AOA were confirmed during the PFR.

Avoidance was recommended for the two areas of potential confirmed during the study, while no further work was recommended for the remainder of the assessed development areas which were deemed to have low archaeological potential.

In 2021 Stantec conducted a PFR of the proposed Sundance Bike Park which consist of approximately 17 km of downhill machine-built free ride flow trail, and the proposed Mount Morrisey trail which will consist of a 1.8 km of two-way multi-user trail. The surveyed areas are approximately 2 km southwest and 1.75 km northwest of the current study area. No archaeological sites were identified during the PFR. One area of archaeological potential was recorded within the Sundance Bike Park and avoidance of the potential area was recommended during trail construction (Dirmeitis and McKnight 2021).

Stantec completed an AOA for a proposed chairlift in the West Bowl Area of Sun Peaks, approximately 5.8 km northwest of the study area (Scott 2021). The AOA identified several areas of archaeological potential associated with relatively level terrain and terrain characteristics and features commonly associated with archaeological sites such as proximity to freshwater hydrological sources. An AIA was recommended for areas evaluated as having high archaeological potential and that a sample of areas deemed as having low archaeological potential are assessed during fieldwork to confirm the assessment of potential.

4.3 ETHNOGRAPHICAL SETTING

Based on a review of the Consultative Areas Database, the study area is within the territory of the Adams Lake Indian Band, Little Shuswap Lake Band, Neskonlith Indian Band, Simpcw First Nation, Skeetchestn Nation, Shuswap Indian Band, Splats'in First Nation, and Tk'emlups Nation. These Nations represent members of the Interior Salish ethnographic group and are speakers of the Shuswap or Secwepemc (***Secwepemctsín***) language and are the northernmost Salish-speaking peoples of the Interior Plateau region (Ignace 2008). Pertinent ethnographic information relating to the cultural landscape around the study area was compiled by Teit (1909, 1930). Other early ethnographers include Boas (1891), Curtis (1911), and Dawson (1892). More recent work includes Bouchard and Kennedy 1979, 1990: Kennedy and Bouchard 1987; Palmar 1975a, 1975b; and Ray 1939, 1942. Although the archaeological and ethnographical record pertaining to the study area is incomplete, ethnographic resources elucidate traditional territories and past land use activities indicating the types of archaeological sites that might be found in the study area.

Traditionally, the general settlement pattern of the Secwepemc was that of winter congregation in pithouse villages and spring to fall dispersal and regrouping throughout their territory to harvest seasonal resources and to trade with neighbouring peoples (Teit 1909; Turner et al. 2016). The seasonal round consisted of 13 lunar months, starting with the late fall when the Secwepemc entered their winter ***(swucwt***) homes where they stayed until the mid to late spring. As the snow began to melt, the Secwepemc began travelling by foot, sometimes with dogs, and later by horse to harvesting sites at increasingly higher elevations as resources became available (Ignace and Ignace 2016; Turner et al 2016). Generally, spring was a time for digging roots and lake fishing.

Early summer saw the first of the various berries ripen. July and August were a period of congregation again with the predominate activity being salmon fishing, and fall was a time of dispersal to hunt large game, trap smaller furbearing mammals, and harvest plant resources primarily at higher elevations. The seasonal movement of people was inextricably linked to the temporal and spatial availability of plant resources and occurred in a patterned and predictable seasonal round as communities and families visited harvesting sites throughout a rich diversity of landscapes encompassed by their territory year after year (Peacock et al. 2016).

Mount Tod (***Skwelkwekwlt***) is ethnographically known as a significant hunting site and an important harvesting and gathering locality for various roots and medicines including yellow glacier lily (***scicw***), Canbys lovage (***ye7ut; yi7ut***), and wild mountain potato (***skwenkwínem; skwakwína***) (Peacock et al. 2016; Secwepemc Nation; Thomas et al. 2016). Within the study area numerous culturally significant plant resources were available including western redcedar (***7éstqwp, 7estqwllp, 7astqw***), black huckleberry (***sesép***), black tree lichen (***wíle***), lodgepole pine (***qweqelí7t***), devil's club (***kets'e7éllp***), and subalpine fir (***melánllp***). Western redcedar is one of the dominant species within the ICH zone but is not widely available throughout the greater area and was important species used in the manufacture of traditional technologies (Muir et al. 1994). Huckleberry constitutes one of many important species of berries that was harvested in abundance during the summer months (Turner et al. 2016). An integral part of the Secwepemc diet, black tree lichen was available throughout the greater study area and was raked off Douglas-fir, lodgepole pine, or sub-alpine fir at mid to high elevations in the early fall as a "starvation food" (Ignace and Ignace 2016). The lichen was pit-cooked and then shaped and dried for future use; recent research has shown that in pit-cooking, it has absorbent properties and traps carbohydrates given off by root plants during the slow-cooking process (Crawford 2016). Lodgepole pine cadmium, devil's club, and subalpine fir bark were used medicinally as they provided sources of nutrients when fresh food sources were not abundant (Ignace and Ignace 2016). Lodgepole pine cadmium was harvested in the early spring and provided vitamins and minerals enabling spring cleansing (Ignace and Ignace 2016). Devil's club and the bark of subalpine fir were used in tonics and cleansing teas as physical and spiritual cleansers (Ignace and Ignace 2016).

Ethnographically documented travel routes provided travel corridors and were used to procure seasonal resources. Secwepemc Elders have recalled horse trails, likely following people's original foot trails, throughout Secwepemc territory connecting winter villages to important gathering sites (Turner et al. 2016). One such trail was noted in proximity to the study area from Niskonlith Lake to Tod Mountain (Turner et al. 2016).

Ethnographic accounts describe mid-elevation forested areas as used primarily as corridors to alpine and montane parkland environments and productive forest margins (Muir et al. 1994). As such, most sites in forested areas are expected to be resource procurement sites utilized by task groups based elsewhere, with the most frequented portions of forests near forest margins and along streams and trails where the variety and abundance of flora and fauna are the greatest (Muir et al. 1994).

4.4 HISTORY

The early historic era of sustained European contact in the Thompson region began in 1812 when the Hudson's Bay Company established a fur trading post at present day Kamloops (Muir et al. 1994). The presence of the post led to an increased dependence on trapping and the adoption of Euro-Canadian technology (Ignace and Ignace 2016). However, it wasn't until the gold rush of 1858 that significant settlement in the greater study area occurred as mining operations were followed by an influx of settlers seeking farm and graze land. Settlement significantly altered the ecological communities of the area and dispossessed the Secwepemc people of their lands, who were moved to reserves in the 1860s and 70s (Ignace 2016; Ignace and Ignace 2016; Muir et al. 1994). By the early 1900's transportation infrastructure and railways further opened the Interior of BC for settlement and continued growth and expansion persist to this day.

Development of Mount Tod, named after John Tod (1794-1882), a long time Hudson's Bay Company employee, began with The Burfield Lodge and Chairlift in 1961. Later renamed Sun Peaks Resort, the recreational site has experienced continuous growth. Over the last 60 years, Sun Peaks has continued to increase its capacity through the development of additional chairlifts and lodges, with accelerated growth spanning the last 30 years (Sun Peaks Resort nd). The proposed residential developments within the study area reflect the continual growth of the Sun Peaks Resort and Sun Peaks Village.

Additional sources of disturbance within the study area associated with historic and more recent development include industrial scale logging and the development of resources roads and trails. Logging in the area began in the late-1800s as population increased following the gold rush and was later stimulated by the increased demand for lumber associated with the completion of the railway (Cooperman nd). Aerial images of the study area indicate recent land clearing activities within small portions of the study area, and PFR studies conducted nearby have noted clear-cut logging and forested areas consisting of second-generation growth (Davison 2018; McKnight and Davison 2019). Based on the Province of BC's iMap mapping application, the projected age of forest stands within the study area is 99 years.

As the historical developments that have occurred within the study area, such as logging and the construction of resource roads and trails, have resulted in relatively limited subsurface impacts, there is the potential for intact unrecorded archaeological resources to be present within the study area. However, based on the projected age of the forest stand and previous clearing activities, the potential for the presence of culturally modified trees within the study area is considered to be low.

5.0 EVALUATION OF ARCHAEOLOGICAL POTENTIAL

The lack of recorded archaeological sites in the vicinity of the study area may reflect the absence of detailed archaeological field studies within mid to high elevation settings rather than an absence of sites in this setting. Based on the results of this study, there is potential for unrecorded archaeological sites to be present within the study area. This assessment of potential is based on the following:

- The study area is situated within a small pocket of ICH zone bound by the ESSF zone and is 28 m east of McGillivray Creek; ethnographic data illustrates that forest margins and areas adjacent to fresh water sources represent the most frequented portions of mid-elevation forested environments as they are associated with and increased abundance of flora and fauna.
- The presence of topographic attributes associated with archaeological sites, consisting of level to gently sloping terrain were identified within the study area during a review of LiDAR imagery.
- Ethnographic data illustrates the significance of high elevation and mountainous environments within Secwepemc territory for hunting and gathering, and the demonstrates the more recent use of Mount Tod as an important hunting and plant harvesting site.
- Ethnographic accounts of traditional Secwepemc settlement patterns demonstrate that the seasonal movement of people was inextricably linked to the availability of plant resources; several culturally salient plant species including western redcedar, black huckleberry, black tree lichen, lodgepole pine, Devil's club, and subalpine fir are native to the study area.
- Based on ethnographic sources, the study area is conducive to ethnographic travel corridors; though the exact location is unknown, at least one horse trail (which may follow older foot trails) was noted connecting Niskonlith Lake to harvesting sites at Mount Tod.

6.0 RECOMMENDATIONS AND CLOSURE

Based on the evaluation of archaeological potential discussed above, there is potential for archaeological resources to be present within the study area. A PFR is recommended to refine the desktop evaluation of archaeological potential. If the PFR identifies areas of archaeological potential which cannot be avoided, it is recommended that an AIA be conducted under a Heritage Conservation Act Heritage Inspection Permit prior to any construction activities. Archaeological field studies should also be conducted in accordance with heritage inspection permits issued by involved Indigenous groups that maintain permitting systems.

The present study was designed solely to identify the potential for evidence of past human activity protected under the HCA. It is not the intent of this report to evaluate traditional aboriginal use, nor is the intent to address potential impact to post-1846 cultural heritage resources within the Project area.

7.0 REFERENCES

Archaeology Branch. 2009. Archaeological Overview Assessments as General Land Use Planning Tools – Provincial Standards and Guidelines. Ministry of Forests, Lands, Natural Resource Operations and Rural Development, Victoria, BC. Accessed October 6, 2021., https://www.for.gov.bc.ca/ftp/archaeology/external/!publish/web/professionals/FIA_AOA_Standards_2009.pdf

Ball, B. 2003. Archaeological Assessment Orient Ridge. April 14, 2003. Letter report on file with Sun Peaks Resort.

Boas, F. 1891. The Shuswap. Second general report on the Indians of British Columbia, sixth report of the committee on the north-western Tribes of Canada. In Report of the 60th Meeting of the British Association of the Advancement of Science, Part II:551-555.

Bouchard, R. and D. Kennedy. 1979. Shuswap stories: collected 1971-1975. CommCept, Vancouver, BC.

Bouchard, R. and D. Kennedy. 1990. Shuswap Indian use of the Squi'lax area. Appendix 1. In archaeological excavations at sites EfQv-121, EfQv-123 and EfQv-133 near Squi'lax, BC., by T. Richards and A. Stryd. Permit 1989-0089. On file with the Archaeology Branch of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, Victoria, BC.

Carl, G.C., W.A. Clemens and C.C. Lindsey. 1959. The fresh-water fishes of British Columbia. British Columbia Provincial Museum Handbook 5. Victoria, BC.

Clague, J. J. 1981. Late Quaternary Geology and Geochronology of British Columbia Part 2: Summary Discussion of Radiocarbon Dated Quaternary History. Geological Survey of Canada Paper 80-35.

Cooperman, J. nd. "Forest Industry was key to Shuswap Settlement". Electronic source accessed October 6, 2021. https://shuswappassion.ca/history/forest-industry-was-key-to-shuswap-settlement/

Curtis, E. S. 1911. Salishan tribes of the interior. In The North American Indian: Being A Series of Volumes Picturing and Describing the Indians of the United States and Alaska. Vol.7 Harwood, CT.

Crawford. S. The Ethnolichenology of Wila (Bryoria fremontii) An important Edible Lichen of Secwepemc Country and Neighboring Territories. In Contributions in Ethnobiology, Secwepemc People and Plants: Research Papers in Shuswap Ethnobotany. Edited by Marianne B. Ignace, Nancy J. Turner, and Sandra L. Peacock. Society of Ethnobiology.

Davison, E. 2018. Preliminary Field Reconnaissance of Lot 36A Road, Sun Peaks Resort, British Columbia. Letter report on file with Sun Peaks Resort.

Dawson, G.M. 1982. Notes on the Shuswap people of British Columbia. Proceedings and Transactions of the Royal Society of Canada for the year 1891. 9(2):3-44. Dawson Brothers Publishers, Montreal, QC.

Dirmeitis, C. and S. McKnight. 2021. Preliminary Field Reconnaissance for Sun Peaks Resort's Sundance Bike Park and Mount Morrisey Trail Networks.

Fulton, R.J. 1969. Glacial Lake History, Southern Interior Plateau, British Columbia. Department of Energy, Mines and Resources, Ottawa.

Fulton, R.J., A.A. Berti, and G.W. Smith. 1974. Surficial geology, Shuswap Lake, west of sixth meridian, British Columbia. Geological Survey of Canada, "A" Series Map 1391A.

Gallacher, A. and A. Perdue. 2014. Archaeological Overview Assessment – Amended License of Occupation #337752, Sun Peaks, BC. On file with Sun Peaks Resort.

Grieve, J. 2018. Archaeological Overview Assessment – Proposed Snow Making Reservoir, Chairlifts, Power Trench-Lines, and Ski Runs at Sun Peaks Resort. Report on file with Sun Peaks Resort.

Hebda. R. 1982. Postglacial History of Grasslands of Southern British Columbia and Adjacent Regions. In Grassland Ecology and Classification Symposium Proceedings, Nicholson, A.C., A. Mclean and T.E. Baker, Eds. 1983, B.C. pp 157-191. Ministry of Forests, Victoria, BC.

Ignace, R. E. 2008. Our Oral Histories are our Iron Posts: Secwepemc Stories and Historical Consciousness. Unpublished Doctoral Dissertation, Department of Sociology and Anthropology, Simon Fraser University, Burnaby, BC.

Ignace, R.E. 2016. Preface. Contributions in Ethnobiology, Secwepemc People and Plants: Research Papers in Shuswap Ethnobotany. Edited by Marianne B. Ignace, Nancy J. Turner, and Sandra L. Peacock. Society of Ethnobiology.

Ignace R.E., and M.B. Ignace. 2016. Re tsuwet.s-kucw ne Secwepmculecw: Secwepemc Resource Use and sense of Place. In Contributions in Ethnobiology, Secwepemc People and Plants: Research Papers in Shuswap Ethnobotany. Edited by Marianne B. Ignace, Nancy J. Turner, and Sandra L. Peacock. Society of Ethnobiology :25-64.

Johnsen, T.F. and T.A. Brennand. 2004. Late-glacial lakes in the Thompson Basin, British Columbia: paleogeography and evolution. Canadian Journal of Earth Science 41:1367-1383.

Kennedy, D. and R. Bouchard. 1987. Notes on Sahhaltkam ethnography and history. Report on file, British Columbia Indian Language Project, Victoria, BC.

Ketcheson, M.V., T.F. Braumandl, D. Meidinger, G. Utzig, D.A. Demarchi, B.M. Wikeem. 1991. Chapter 11: Interior Cedar – Hemlock Zone. Edited by D.V. Meidinger and J. Pojar. British Columbia Ministry of Forests Special Report Series 06.

Lackowicz, R. and M. Handly. 2000. Archaeological Overview Letter Report, Proposed Mount Morrissey Expansion. On file with Sun Peaks Resort.

LeBourdais, L. 2011a. Archaeological Preliminary Field Reconnaissance Report. Forest Health and Fuel Management Mount Morrissey West. Resort Development Branch, Ministry of Forests, Lands, Natural Resource Operations and Rural Development, Kamloops, BC.

LeBourdais, L. 2011b. Archaeological Preliminary Field Reconnaissance Report. Forest Health Treatment Units 1-4 and 6-9 and Fuel Treatment Units 5, 7, 21A, 12B, and 15. Resort Development Branch, Ministry of Forests, Lands, Natural Resource Operations and Rural Development, Kamloops, BC.

McKnight, S. and E. Davison. 2019. Preliminary Field Reconnaissance of Two Proposed Reservoir Options and a Chari Lift Development Area at Sun Peaks Resort. Letter report on file with Sun Peaks Resort.

Mathewes, R.W. 1985. Paleobotanical evidence for climatic change in southern British Columbia during late-glacial and Holocene time. In Climatic change in Canada 5: critical periods in the Quaternary climatic history of northern North America, edited by C. R. Harington. Syllogens 55:344-396.

Muir, R., D. Alexander, and R. Brolly. 1994. Archaeological Overview of the Kamloops Forest District, Land and Resource Management Planning Region. On file with the Archaeology Branch of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, Victoria, BC.

Palmar, A. 1975a. Shuswap Indian ethnobotany. Syesis 8:25-81.

Palmar A. 1975b. Cultural ecology in the Canadian Plateau: pre-contact to early contact in the territory of the southern Shuswap Indian of BC. Northwest Anthropological Research Notes 9:199-245.

Peacock, S.L., M.B. Ignace, and N.J. Turner. 2016. Chapter 5 - Re Secwepemc Syecwmenúlecwems: Secwepemc Stewardship of Land and Resources. Contributions in Ethnobiology, Secwepemc People and Plants: Research Papers in Shuswap Ethnobotany. Edited by Marianne B. Ignace, Nancy J. Turner, and Sandra L. Peacock. Society of Ethnobiology:167-206.

Perdue, A. 2014a. Archaeological Overview Assessment of Morrissey Bridge Crossing, Sun Peaks, British Columbia. On file with Sun Peaks Resort.

Perdue, A. 2014b. M-252-2013: Archaeological Impact Assessment of Gills Development Area, Sun Peaks Resort. On file with Sun Peaks Resort.

Ray, V.F. 1939. Cultural relationships in the plateau of north-western America. Publications of the Frederick Webb Hodge Anniversary Publication Fund 3. Los Angeles, CA.

Ray, V.F. 1942. Cultural element distributions, XXII: plateau. University of California Anthropological Records 8(2):99-257.

Rousseau, M.K. and T. Richards. 1985. A culture-historical sequence for the South Thompson River Western Shuswap Lakes region of British Columbia: the last 4,000 years. Northwest Anthropological Research Notes 19(1):1-32.

Scott, M. 2021. Archaeological Overview Assessment – Proposed Chairlift Installation in the West Bowl Area, Sun Peaks Resort. Report on file with Sun Peaks Resort.

Secwepemc Nation. Electronic source accessed October 6, 2021. https://web.archive.org/web/20160315053119/http://landoftheshuswap.com/lang.html

Sun Peaks Resort. nd. Electronic source accessed October 6, 2021. Sun Peaks Resort History | Sun Peaks Resort

Teit, J. 1909. The Shuswap. In memoir of the American Museum of Natural History, Jesup North Pacific Expedition, (7):447-789. New York.

Teit, J. 1930. The Salishan Tribes of the Western Plateaus, edited by F. Baas. Extract from the Forty-fifth Annual Report of the Bureau of American Ethnology, Washington.

Thomas, M., N.J. Turner, and A. Garibaldi. 2016. Chapter 10 - “Everything is Deteriorating”: Environmental and Cultural Loss in Secwepemc Territory. Contributions in Ethnobiology, Secwepemc People and Plants: Research Papers in Shuswap Ethnobotany. Edited by Marianne B. Ignace, Nancy J. Turner, and Sandra L. Peacock. Society of Ethnobiology: 345-378.

Turner, N.J., M.B. Ignace, and S.L. Peacock. 2016. Introduction to the Volume. Contributions in Ethnobiology, Secwepemc People and Plants: Research Papers in Shuswap Ethnobotany. Edited by Marianne B. Ignace, Nancy J. Turner, and Sandra L. Peacock. Society of Ethnobiology:1-24.

Young, M. 2018. Archaeological Over Assessment – Land Parcels 70, 34, 35, 36A and Associated Roads, Sun Peaks Resort. Report on file with Sun Peaks Resort.