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Exploring Indigenous Involvement in the Fur Trade at the Bridge River Pithouse Village, British Columbia

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EXPLORING INDIGENOUS INVOLVEMENT IN THE FUR TRADE AT THE BRIDGE RIVER PITHOUSE VILLAGE, BRITISH COLUMBIA

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Table of Contents

List of Figures

List of Tables

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ABSTRACT

Much research has been done on the Fur Trade period occupation of Housepit 54 at the Bridge River site. This thesis investigates the cause of resource intensification seen in the increase in projectile points, faunal remains, hide scrapers, and fire-cracked rock (FCR). In order to determine the impetus of this change, I compare the fracture patterns of FCR, the size of FCR, the densities of FCR, deer NISP, and slate scrapers, and the population estimate from the fur trade floor and roof to the last floor and roof of the previous occupation. This will determine whether the resource intensification was due to the occupants producing hides for trade or because they had to feed and clothe an extra-dense population. Through this study, we can observe how a hunter-gatherer-fisher household exercised their agency during the Fur Trade either through acting as procurement specialists or by choosing to focus singularly on internal needs.

Chapter 1: Introduction

This thesis considers the question of resource intensification during the Fur Trade period at Bridge River (EeRl4), a hunter-fisher-gatherer site in British Columbia. The high number of projectile points, hide scrapers, and faunal remains from the final floor of Housepit (HP) 54 indicates intensification in hunting. Because of this and the presence of European artifacts, researchers believe that the occupants of HP 54 were mass producing buckskin hides in response to the demands of the fur trade (Prentiss 2017a). This research uses a combination of factors to determine whether this really was the case. These include fire-cracked rock (FCR), deer NISP (number of identified specimens), hide scraper density, and population. By comparing these elements from the fur trade floor to the last floor of the previous occupation, we can measure the amount and type of change that occurred.

The bulk of the analysis is on the FCR which shows up in high densities on the final floor and roof of HP 54. The ratio of FCR pebbles to cobbles is indicative of the amount of cook-stone reuse (Graesch et al. 2014). This intensification of cooking can act as a proxy for resource intensification. Through analysis of the breakage faces of FCR, I can discover the types of cooking that took place, specifically boiling versus roasting/grilling (Neubauer 2018). This may reveal the purpose behind their cooking, whether it was to fulfill household needs or a craft specialization of hide production. By comparing the density of deer NISP from both occupations, I can determine whether there really was an intensification in the hunting of deer. The slate scraper density is the clearest indicator of the level of hide production and can show if the household was focusing more of their time and energy on processing skins. The population data will indicate whether the increased number of hide scrapers, deer remains, projectile points, and FCR was in response to a larger household or not.

Aside from learning more about the Bridge River site, this research project will add to the growing body of literature dedicated to fire-cracked rock. The earliest known research into the impact fire had on stone began in the late 19th century. These early studies were concerned with fire's effect on stone specifically in architectural and geological contexts (Blackwelder 1927; Buckley 1898; McCourt 1906; Merrill 1891; Winchell 1884). It was not until the 1970s and 1980s that archaeologists began to investigate how FCR could be informative of past human lifeways (Bearden and Gallagher 1980; Brink et al. 1986; House and Smith 1975; McDowell-Loudan 1983; McParland 1977; Pierce 1983; White and Hannus 1983; Witkind 1977). Archaeologists started to perform experiments on rocks to observe the change stones underwent when they were exposed to prolonged heat in a fire, and in some instances how submersion in water affected them. While many experiments and studies have been conducted and published since then (Custer 2017; Cutts et al. 2019; Dietz 2005; Duncan and Doleman 1991; Graesch et al. 2014; Jensen et al. 1999; Neubauer 2018; Pagoulatos 1992; Petraglia 2002; Thoms 2008, 2009; Wilson and DeLyria 1999) the number of studies overall pales in comparison to other artifact classes like stone tools and ceramics. This is especially shocking when you consider that FCR is one of the most abundant artifacts and is sometimes the only indication that humans occupied a site. That is why it is critical that archaeologists look to their FCR assemblages for answers in order to test these methods and develop new ones. The benefit of this project is that the analysis of FCR as laid out by Neubauer (2018) can be done at a site with extensive research of other related phenomena such as zooarchaeology as well as extensive ethnographic work which can help signify whether the results have merit.

Another benefit of this project is the historical context in relation to the site's unique location. Unlike the majority of fur trade-era archaeological sites in British Columbia which were either fur trading posts or associated indigenous settlements, this site was nowhere near a trading post. The closest posts to the Bridge River village were over a hundred kilometers away. This places Bridge River in the indirect zone (Ray 1978) where trade was done through middlemen as the remoteness prohibited regular trade relations with the men of the Hudson's Bay Company and the North West Company. Because very few studies have been done on hunter-gatherer sites that fall within the indirect zone, Bridge River presents a rare opportunity to observe how Indigenous people who had infrequent or no contact with Europeans took part in the fur trade. I will be able to help show to what extent the Bridge River occupants might have been involved in the fur trade, if at all.

The following chapters will discuss the context of the site, the theory, hypotheses and test expectations of the project, the methods, the results, and the conclusion. Chapter 2 will provide background on the Bridge River site and the historical context. It will cover the archaeology of the Middle Fraser Canyon where the site is located and transition into the history of the Bridge River site (EeRl4) itself. It will also include a brief history of the fur trade in what is now British Columbia.

Chapter 3 will begin by discussing the different theories used to develop the hypotheses. Post-colonial theory is the basis for the entire research, focusing on the agency the Bridge River inhabitants possessed rather than the outdated notion that Indigenous people played a passive role in the fur trade and the colonization that followed. The first of the two active hypotheses is based on world-systems theory which views hide production by Indigenous groups as a type of craft specialization. The second relies on a combination of Boserupian demographic ecology and optimal foraging theory, which insists that population drives resource intensification, causing groups to diversify the resources they pursue in order to increase their yield. This chapter also describes the three hypotheses and the related test expectations.

Chapter 4 will lay out the methods implemented in this project. The laboratory analysis is concentrated on the FCR, examining the breakage faces of the rock and collecting information from the field notes on FCR size. The remainder of the research focuses on data already gathered on the faunal remains, hide scrapers and FCR count, the latter of which will be used to estimate the population like it has already for floor IIa (Prentiss, Foor, and Hampton 2018).

Chapter 5 will present the results of the study and how they inform the three hypotheses. The results from the FCR analysis will be compared between the two occupation levels considered in this project. Then the changes in deer NISP, hide scraper density, and population will be discussed. Finally, I will determine which of the hypothesis may be accepted based on the results.

The thesis will conclude in chapter 6 by considering the implications of this project and future avenues of research.

Chapter 2: Background

This chapter introduces the background information that is relevant to the research project concerning the history of the site and the historical context of the fur trade. The Middle Fraser Canyon where Bridge River is located has been occupied for millennia and therefore it is necessary not only to describe the different occupations of the site but also the history of the surrounding region. In order to place the study in its historical context, I also provide a brief history of the fur trade in the region we now call British Columbia. Together, the archaeological excavations and the historical context set the stage for the research project.

Archaeology in the Middle Fraser Canyon.

Located in the southern part of the British Columbia Interior, the Middle Fraser Canyon lies along the Fraser River and has been occupied for many millennia (Figure 1). This "region includes the Fraser River and its flood plains, adjacent talus slopes and terraces, and surrounding mountains and high valleys" (Prentiss and Kuijt 2012:2). A wide variety of environments can be found in the region, from meadows to forests to alpine tundra. The diversity in environments leads to a vast array of resources such as berries, roots, nuts, deer, and bears, not to mention the salmon of the Fraser River and its tributaries. The abundance of resources makes the Mid-Fraser an ideal location for people to settle which people have been doing for the last 10,000 years. Indigenous groups that live here and the greater surrounding region include the St'át'imc (aka Lillooet), the Nlaka'pamux (aka Thompson), the Secwepemc (aka Shuswap), and the Syilx (aka Okanagan).

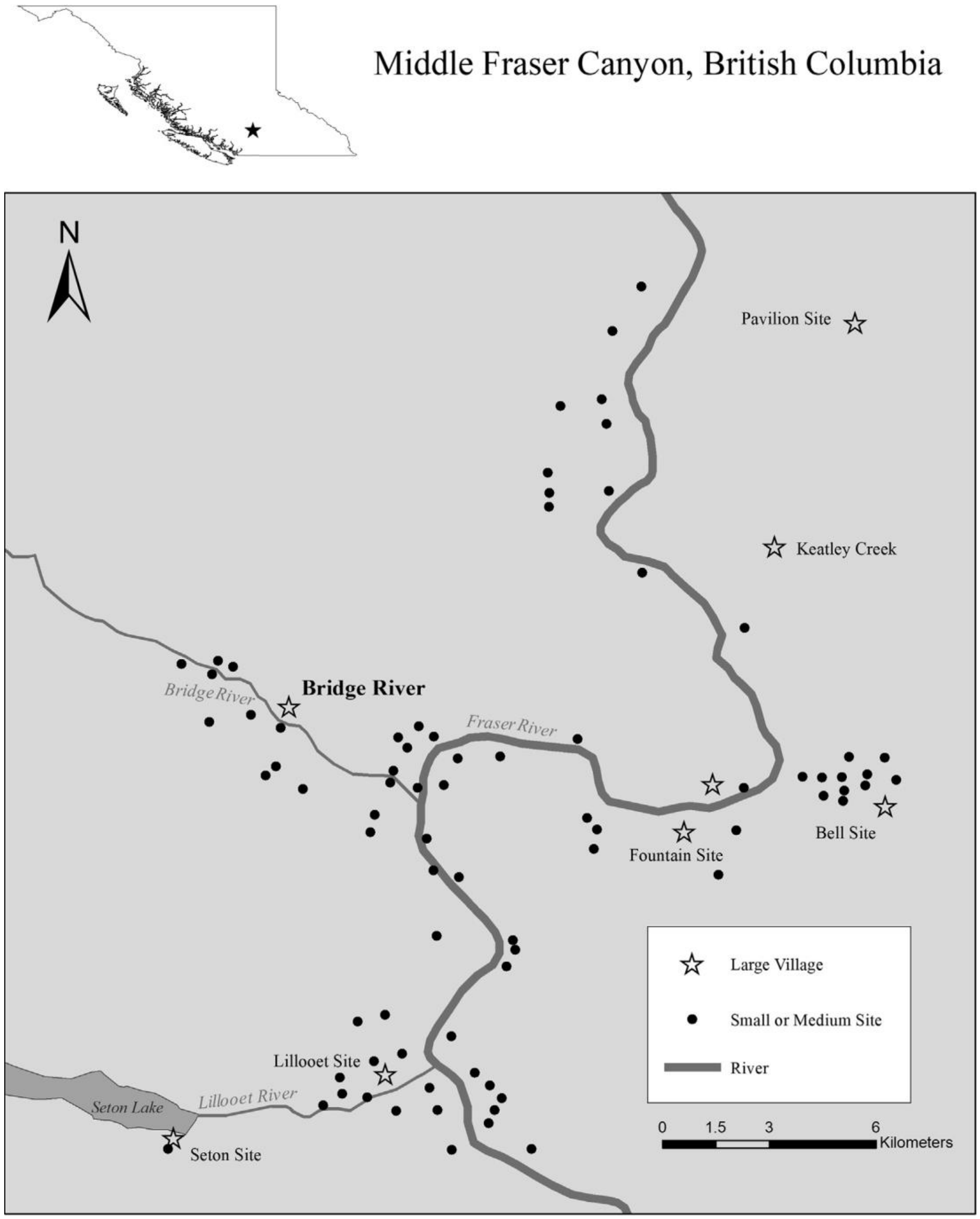

Figure 1. Regional map showing Mid-Fraser region and location of the Bridge River site (Prentiss et al. 2020:5).

While the people of the Middle Fraser Canyon were hunter-gatherers, they did not utilize foraging (per Binford 1980), but rather complex collecting (Prentiss et al. 2005) as their economic strategy. Foraging involves frequent residential moves and bringing the people to the resources, while collecting is more sedentary and involves taking the resources to the people.

Complex collecting is an expansion of the collecting strategy, where large house groups could protect the resources close to their settlement and “move farther afield to collect more distant foods” (Prentiss and Kuijt 2012:195). According to ethnographic research on traditional foodways, the St’át’imc spend most of the year amassing food to store for the winter. Spring is focused on deer, trout, and geophytes; early summer is about berry harvesting and processing by the women; mid-July to mid-August is focused on salmon fishing and processing; fall, the men hunt deer, elk, and sheep with the women either accompanying them or searching for plant foods; and November they move into the winter villages (Prentiss and Kuijt 2012).

During the winter, the people stayed in large pithouse villages, subsisting on resources they had collected throughout the year. A pithouse is a semi-subterranean structure where a pit is dug and then a roof constructed over it. Pithouses were built first by measuring a circle on the ground, and then the women would dig the soil with their digging sticks (Teit 1900:192). Once the pit was dug and the dirt cleared away, they constructed the roof out of rafters, which were then covered in pine needles or dry grass, and then they added a layer of earth over that. The entrance to the housepit was a square hole in the roof and a “large notched log…gave access to the house” (Teit 1900:194). After several years, the wood rotted and vermin infested the house at which point the people would salvage what timber they could, burn down the roof, and rebuild. In small pithouses, the storage pit is in one spot, the hearths in another, and a separate area for toolmaking, while large pithouses most likely have redundant activity areas along the perimeter (Prentiss and Kuijt 2012:92). This is due to each family having their own space with different areas for their daily activities.

Pithouses first appeared in the Mid-Fraser at the tail end of the Middle Period during the Shuswap horizon spanning from 3500 to 2500 BP (Prentiss and Kuijt 2012:59). It was not until the Interior Late Period that major pithouse villages developed (Fladmark 1982:131). Since complex collecting limits a group's mobility, it follows that the wealth of resources in the Mid-Fraser helped spawn these large villages. These include Bridge River, Keatley Creek, Bell, McKay Creek, Akers/Chicken Gully, Kelly Lake, Seton Lake, and West Fountain (Morin et al. 2008). Of these sites, only Bell, Keatley Creek, and Bridge River have been excavated extensively. These three sites are all within St'át'imc boundaries.

During the early 1970s Arnoud Stryd excavated the Bell site which is located east of the Fraser River. Most of the site is made up of "twenty-three housepits of varying sizes and shapes" (Stryd 1973:285). The village was occupied from approximately 1700 years ago and 1000 years ago. One burial was found and excavated at the Bell site. The child—estimated to be around 1.5 years old based on dentition and of unknown gender—was interred with what could only be described as prestige items. The variety of grave goods included an antler figurine haft, a soapstone pendant, an antler comb, all of which were engraved, along with a quartz crystal and 246 dentalium shell beads. Both the skeleton and the grave goods "were blanketed with a powdery red ochre" (Stryd 1973:426). The infant's age combined with the elaborate items lends credence to the idea that social inequality was present in the village. "The burial site dated to the final centuries of the villages occupation" (Prentiss and Kuijt 2012:94). That means that approximately 1200 to 1000 years ago, material-based social inequality was present in the village.

In the late 1980s, archaeologist Brian Hayden excavated the Keatley Creek site which lies on a creek of the same name just a couple kilometers upriver from the Fraser. Of the approximate 115 housepits (Hayden and Spafford 1993:112), Hayden's excavation focused on a handful of these and the rims which surrounded the larger housepits. These developed because when people burned down the roof, they would clear away the debris and use them to build up the walls of the pit. Anna Prentiss also excavated at Keatley Creek in the late 1990s and early 2000s, focusing on dating Housepit 7. A controversial subject of this site is when the village first became established. According to Hayden, the village was established before 2300 BP based on his dating of the rim deposits (Hayden 2005). In startling contrast, Prentiss's excavation and dating of Subhousepit 3 puts the construction of Housepit 7 no earlier than 1700 BP (Prentiss and Kuijt 2012). Keatley Creek was at its largest maybe between 1200 and 1300 BP with social inequality appearing sometime after 1200 BP (Prentiss et al. 2007). The village was eventually abandoned around 800 BP.

Bridge River, the focus of this research project, is situated on a river bearing the same name (Figure 2). The Bridge River Band (Xwísten) lives alongside the site today. While initial archaeological investigation took place in the 1970s when Arnoud Stryd test excavated the site, it was not extensively studied until much later. Beginning in the 2000s, Bridge River has been thoroughly excavated, mapped, dated, and researched by Anna Prentiss and her team. Present data indicate that the village was established between 1900 and 1800 BP, then abandoned ca. 1000 BP. A few centuries later, the village was reoccupied from 500 BP to the Fur Trade period. Bridge River contains 80 housepits in addition to numerous external pit features (Prentiss et al. 2008). Four periods of occupation have been identified: BR1 ca. 1800-1600 cal. B.P., BR2 ca. 1600-1300 cal. B.P., BR3 ca. 1300-1000 cal. B.P., BR4 ca. 500-100 cal. B.P. (Prentiss et al. 2018:602).

Much research has focused on BR2 and BR3 periods when the population of the village exploded and material wealth-based inequality emerged (Prentiss et al. 2008, 2011, 2012, 2014, 2018a, 2018b, 2018c, 2020). By BR2 times, the number of housepits had doubled and by BR3 30

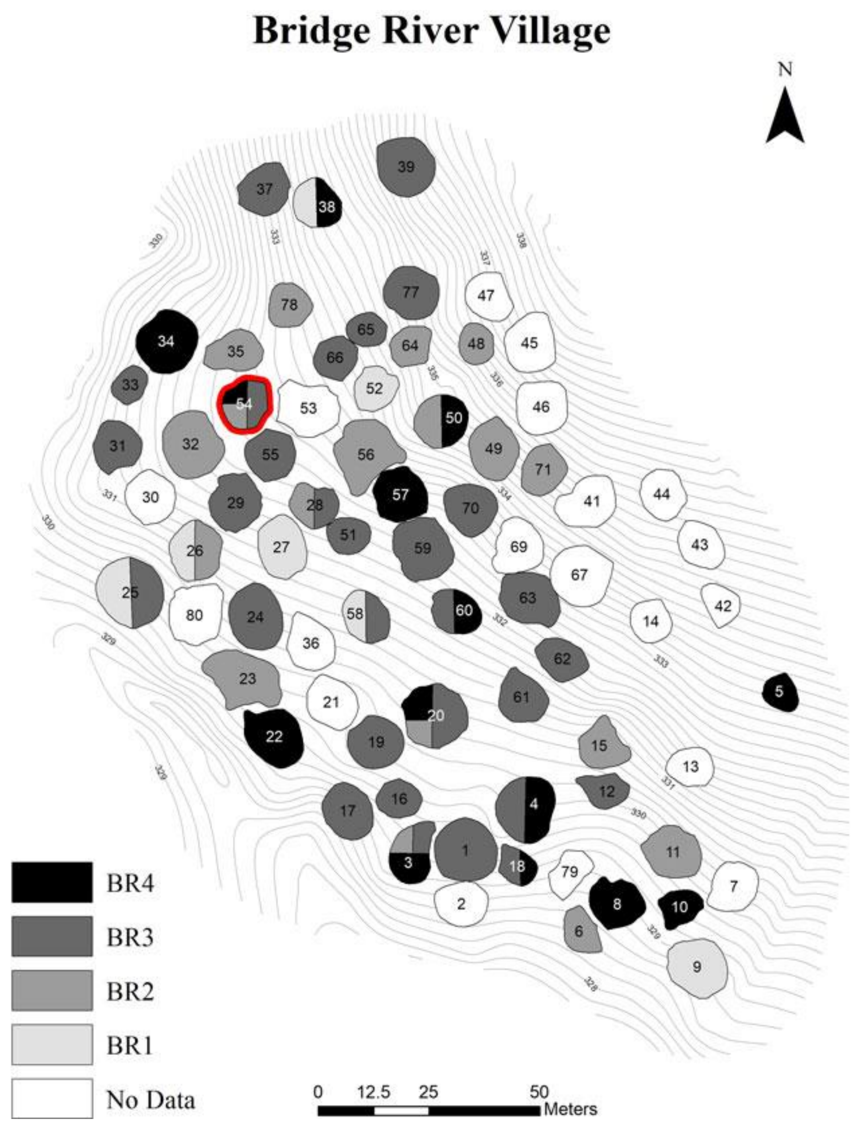

Figure 2. Map of Bridge River site showing distribution of houses during the BR1-4 periods. Map by Ethan Ryan. (Prentiss et al. 2018:602).

housepits were occupied. Around 1200 BP, there was a decline in salmon numbers and very quickly the local deer were depleted. This resource depression caused increased competition over food stuffs and led to the emergence of social inequality (Prentiss et al. 2014). The most recent research has been concentrated on Housepit (HP) 54 due to the longevity of the house and its well-preserved floors and roofs. 17 floors and 7 roof deposits (Figure 3) were revealed while excavating HP 54 (Prentiss et al. 2018c). Floors were labeled II: the most recent floor was II, the next older floor was IIa, ending with the oldest floor, IIo. The few roof deposits were labeled V followed by the same letter as the floor they were associated with. For instance, the final floor and roof are II and V, respectively, while the floor and roof for the previous occupation are IIa and Va. HP 54 was continuously occupied from IIo to IIa. This allowed researchers to measure intrahousehold change on a floor-by-floor basis. With each floor lasting approximately 20 years, this created fine-grained results.

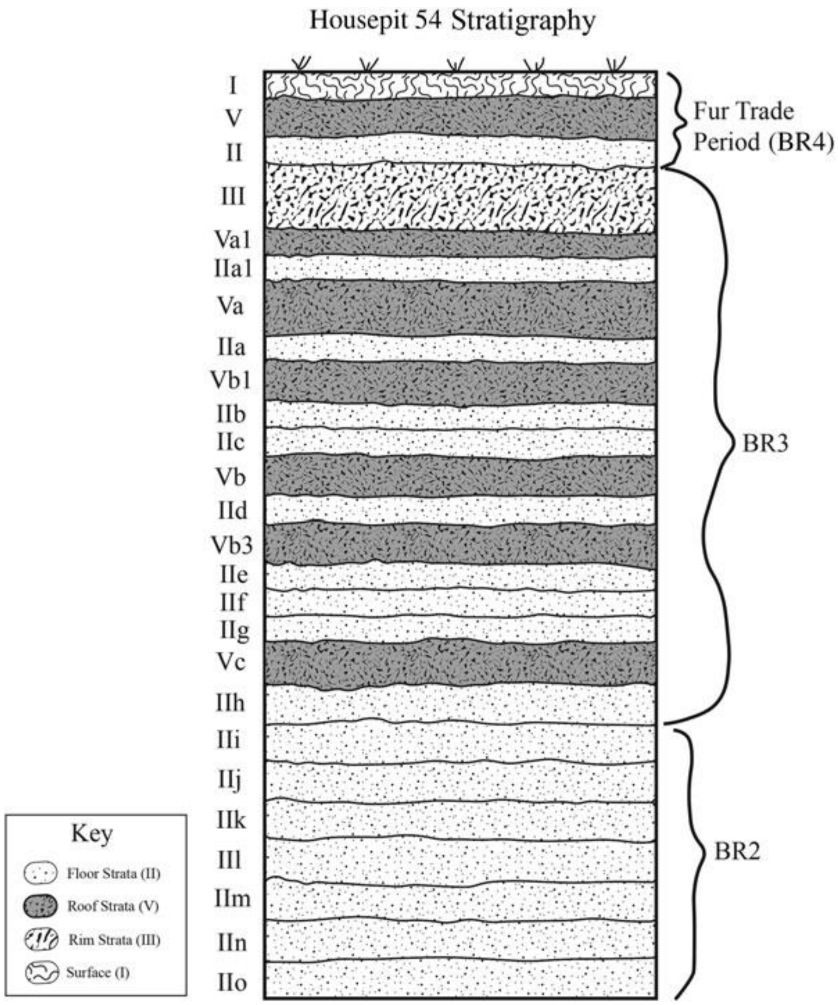

Figure 3. Summary stratigraphic profile (not to scale) of HP 54 illustrating complete sequence of strata inclusive of surface (I), rim-midden (III), roofs (V), and floors (II). Figure by Ashley Hampton. (Prentiss et al. 2018:606).

This project is also concerned with HP 54, specifically when it was inhabited during the Fur Trade period. Most likely that period was from the mid-1830s to 1858-9 (Prentiss 2017:248). This was determined through multiple pieces of evidence: a striped glass bead first manufactured

1851; European artifacts manufactured in the 1830s; the fact that a pithouse floor generally lasted about twenty years; and the upset of Indigenous lifeways and the rearrangement of human groups caused by the gold rush of 1858. Despite the fourteen houses that were occupied during BR4, only HP 54 was being used at the time of the fur trade. Extensive research has been published on the last floor and roof of HP 54 in Prentiss (2017). The focus has been on lithic technology, European artifacts, faunal remains and artifacts, plant use, geochemical analysis, and spatial analysis to name a few. The 2012 excavations revealed evidence of an escalation in hunting and hide preparation seen in the increased number of projectile points, faunal remains and hide scrapers. This combined with the European artifacts has prompted researchers to hypothesize that the inhabitants were taking part in the fur trade, which is precisely what this project is investigating.

Several features were excavated during the 2012 field season (Figure 4), described in Prentiss (2017b). One was a midden, Stratum XIV, which contained a high density of FCR and faunal remains. Researchers performed organic residue analysis of the FCR, which revealed evidence of decomposing plant and animal materials that were discarded in the midden. Most likely the Stratum XIV midden, situated "west and southwest of the central hearth (Feature D-1), was associated with a range of household cooking and processing activities" (Prentiss 2017b:53). Another feature was a relatively narrow cache pit (Feature A1) that was most likely a household garbage receptacle. Feature A2 may have been "initiated as a posthole adjacent to the wall of the house and converted to a garbage pit" (Prentiss 2017b:53-54). Feature B1 bore a strong resemblance to A2 and may have preserved part of the original posthole. Finally, Feature D1 was a relatively large, shallow hearth situated in the middle of the house. The heavily oxidized

Figure 4. Plan view map of HP 54 Stratum II. (Prentiss 2013:219).

sediments signal frequent and intensive use and combined with the large quantity of fish bone fragments indicate that D1 served as the central hearth where all the cooking in the house took place (Prentiss 2017b:54-55).

While it was stated previously that larger pithouses in the Mid-Fraser tended to have redundant activity areas along the edges of the house demonstrated by individual hearths and storage pits as well as associated tools, the above paragraph shows that was not the case for HP

54 during the Fur Trade period. This is most likely due to the differing strategies in social organization, collectivism versus communalism. Under collectivism families chose to live and work together because it was the best way to achieve their goals and there was always the option to switch to a more suitable household leading to very fluid membership (Coupland et al. 2009). "Household production is accomplished through cooperation" (Williams-Larson et al. 2017:185). Communalism, by contrast, is where families form the basic unit of production and consumption, and people are much less likely to leave the household (Coupland et al. 2009). Instead of cooperation, household members rely on coordination to manage household production (Williams-Larson et al. 2017). According to the final report from the 2016 field season (Prentiss 2019b:50), floor IIa as well as the previous floors consist of hearth centered activity areas along the perimeter of the floor which fits the expectations for a collectivist social strategy. By the Fur Trade period, HP 54 had switched to a communalist social strategy. This can be seen in shared activity areas such as the southeast corner where tool production and maintainance occurred; the hearth where food was processed; and the shared cache pits located along the south and southwest perimeter of the house (Williams-Larson et al. 2017).

From the faunal remains, we can discover the subsistence patterns as well as gain insight into the household economy. Of the faunal remains recovered, about a quarter of the assemblage were identified as salmon (Williams-Larson 2017). From this, we can infer that salmon still played a significant role in the diet of the Bridge River people during the contact period. Almost all of the salmon remains came from the more prized fillets (Williams-Larson 2017). This fits with the ethnographic accounts of how the Mid-Fraser people processed salmon at the fishing sites before bringing it back to the village. Over a third of the faunal remains were deer and other medium to large mammals (Williams-Larson 2017). Teit's (1906) ethnography notes that for the

Upper St’át’imc mule deer and big horn sheep were sought after for their flesh, skins, sinew, antlers, and horns. The majority of the deer remains consisted of the lower limbs. This was due to the hunters doing much of the butchery in the field and bringing back the meat and the hide with the limbs attached. Through closer analysis, it is clear that these remaining limbs were then heavily processed for the bone marrow and grease based on the types of bone fragments recovered. Over a quarter of the bones identified as deer show evidence of this processing (Williams-Larson 2017). We know from past investigations at Bridge River (Prentiss et al. 2012, 2014), that the people turned to deer when the salmon populations were low. However, given that the salmon were well represented during BR 4, there must be another cause behind the large number of deer found on the last floor and roof of Housepit 54.

Less than two percent of the animal remains were identified as pelt-bearing prey (Williams-Larson 2017). A wide variety of animals made up this group including beavers, marmots, weasels, martens, minks, fishers, and wolverines. Even some larger predators were hunted for their pelts, like wolves, coyotes, foxes, cougars, lynxes, bobcats, and grizzly and black bears. However, the majority of these remains were medium to small animals which had been heavily processed, most likely to get to the marrow and grease (Williams-Larson 2017). While the small percentage of pelt-bearing prey may seem to suggest that they were not targeting them, this may not be the case. According to ethnographic accounts, hunting parties often came back with only the pelts (Williams-Larson 2017). Unfortunately, this leaves no archaeological evidence in the housepit for us to verify.

Prentiss and her team excavated a plethora of lithic artifacts from the fur trade floor at Housepit 54. Of particular interest are those associated with hunting and hide production. 137 projectile points were uncovered as well as 235 slate scrapers (Prentiss et al. 2017). By comparing the densities of these tool types during this occupation to the previous, and interesting pattern emerges. For the fur trade floor, the density of slate tools was 37.3 in startling contrast to BR 3 which was only 5.96 (Prentiss et al. 2017). In a later chapter, I will calculate the density of slate scrapers alone in order to assess the amount of hide production taking place from one floor to the next. Projectile point density jumps from 1.3 during BR 3 to 5.61 during the Fur Trade period (Prentiss et al. 2017). Fire-cracked rock, which is used for hot rock cooking, increases in density, and will be investigated more fully in chapter 5. We also see an increase in the densities of medium and large mammal remains including deer during the Fur Trade period and will also be further examined in chapter 5. From this, we can infer that hide production, hunting, and cooking increased between the final occupation of BR 3 to when Housepit 54 was reoccupied during the Fur Trade period. Given that they are in the same exact location, we can say that they intensified their hunting, since production increased while land remained constant (Morrison 1994). This sets up the question the project is centered around specifically what caused the inhabitants' resource intensification.

The final artifact category to be considered are those from European-related sources. Only 51 artifacts associated with European trade were discovered on the final floor and roof of Housepit 54 (Augé et al. 2017). They excavated 31 glass beads, nine unknown metal fragments, one fragment of copper, three jingle cones, two metal arrowheads and one possible metal arrowhead fragment, one possible piece of brass sequin, one metal finger ring, one iron horseshoe, and one machine-made bone button (Augé et al. 2017). Of the glass beads, 15 of them were blue and 6 were white (Augé et al. 2017). It has been noted that Indigenous people preferred blue and white beads making them particularly useful for trade. Jingle cones have been used since the 17th century and "are one of the most widespread artifacts exemplifying Native refashioning and repurposing of metal trade items" (Augé et al. 2017:118). The presence of jingle cones and metal arrow heads are just two examples of the perseverance of Indigenous lifeways in the face of colonialism. The dearth of European trade items is most likely due to Bridge River's distance from trade posts.

The Fur Trade in British Columbia.

One of the last places in North America to encounter Europeans was the Pacific Northwest. "The first recorded encounter with [Indigenous people] of what was to become British Columbia was in July 1774 when the Spanish navigator Juan Perez met a group of Haida off the northwest point of Langara Island" (Fisher 1992:1). However, the maritime fur trade in British Columbia did not begin in earnest until 1785. The previous year James Cook's journals were published describing the wealth of sea otter pelts to be had on the Northwest Coast, and the profit they could net in Canton, China (Burley and Hobler 1997:2). After that, fur traders came in droves to the region. Indigenous people often set the price for otter pelts and had much control over trade negotiations as the demand was quite high for these trade items. Before the establishment of posts in the Interior, trade had to be facilitated through the coastal tribes who relied on their social networks to fill the demand for furs (Harris 2012). The advent of the fur trade to the Pacific Northwest brought with it new opportunities for wealth to all parties involved, from the Europeans purchasing the furs to the Indigenous people selling them.

As trade became more land-based, the focus shifted to beaver. Leading the charge to exploit furs in the Interior was the North West Company (NWC). Under the auspices of the NWC, Alexander Mackenzie attempted to find a river route from the Interior to the Pacific Ocean in 1793. Unfortunately, he was unable to find a water route and had to travel "overland across the Coast Mountains to the Bella Coola valley and the Pacific Ocean" (Burley et al. 1996:28). His adventures led to the first trading posts being established in northeastern British Columbia along the Peace River. In 1794, a mere year after Mackenzie's exploration, the Rocky Mountain Fort was built by the NWC, followed by the Rocky Mountain Portage House in 1804 and St Johns in 1806. These posts made up the Upper Peace River District which served to expand the company's trade beyond the Athabasca District (present-day northern Alberta). While this was going on, the NWC also had Simon Fraser establishing forts. The first of these was Fort McLeod in 1805, built on the lake bearing the same name. A year later Forts St. James and Fraser were established, the former on Stuart Lake and the latter on Fraser Lake. The following year "Fort George was built at the confluence of the Fraser and Nechako rivers" (Fisher 1992:25). These four forts helped open up the region known as New Caledonia to trade. Fraser also explored the river bearing his name in 1808 to find a route to transport furs and goods between the Interior and the Coast but the treacherous nature of the Fraser River rapids made it unsuitable for this purpose.

The NWC attempted to control even more of the region by sending David Thompson to find the mouth of the Columbia River. He arrived there on July 15, 1811, but John Jacob Astor of the Pacific Fur Company had beat him to it and was already building the fort at Astoria. The Pacific Fur Company was formed in 1809 and was an American copy-cat of the NWC that crashed and burned within just a few years of its founding. In October of 1813, all of their goods and furs were sold to the NWC for $80,000 (Mackie 1997:16). It was at this point that Fort Astoria changed hands and was renamed Fort George by the NWC. During this time, Thompson of the Pacific Fur Company set up the Thompson's River Post, later known as Kamloops, in 1812 "at the confluence of the North and South Thompson Rivers" (Drake-Terry 1989:20).

Much like Fort George, the post was taken over by the NWC after the purchase of the Pacific Fur Company. “By the end of the decade, the NWC operated six posts on the Columbia River and its tributaries” including the aforementioned Fort George, as well as Spokane House, Flathead House, Fort Kootenay, Fort Okanagan, and Fort Nez Perces (Mackie 1997:18). Altogether, the North West Company had control of the Thompson’s River District, the Spokane District, the Fort Nez Perces District, the Fort George District, the New Caledonia District and the Peace River District. Today that area would stretch from Northeastern British Columbia near the Alberta border, to Portland, Oregon.

While the NWC had dug a strong foothold in the British Columbia Interior, the Hudson’s Bay Company (HBC) was not nearly as successful west of the Rockies. For much of the 18th century, they kept their posts mainly along Hudson Bay. Even though they adopted an aggressive strategy to establish trade in the Interior, the HBC struggled to compete with the NWC. This was due to their difficulties supplying the Interior posts. They had a “policy of reducing the imports of provisions and supplies to cut down the overhead expense” which forced their men to provide for themselves and the provisions they did receive were typically of low quality (Innis 1930:159). However, by restructuring their transportation and personnel policies in the early 19th century (Innis 1930), the HBC was able to place itself in a position to compete with the NWC in the Interior.

Beginning in the second decade of the 19th century, the NWC ran into some troubles. While in previous years the NWC had been able to steal men from the HBC, “with the disappearance of new territory men were later becoming disappointed through lack of advancement and were deserting to the Hudson’s Bay Company” (Innis 1930:164). The last post established by the North West Company was Fort Alexandria, built along the Upper Fraser in

1821. Potentially their costliest mistake was their attempt to market their furs in China. The fees to ship furs there were exorbitant, the price of beaver furs was low in Canton, and theirs were of poor quality—which added up to a loss of approximately £40,000 by 1821 (Mackie 1997:22). These factors, along with the cost of competition in terms of money—and lives when violence broke out—led to the merger between the HBC and the NWC. In 1821 the North West Company was absorbed into the Hudson's Bay Company and thus a monopoly was formed over the North American fur trade.

After the amalgamation of the two companies, many new posts were established in the Pacific Northwest. Fort Vancouver was built 96 miles upriver from Fort George in 1825 under orders from George Simpson (Mackie 1997), the man who oversaw the merging of the two companies' operations. Two years later, Fort Langley was established near the mouth of the Fraser River, which the company hoped to use to transport goods between the coast and New Caledonia. Simpson shortly learned much like Fraser did that the river was much too treacherous to be a reasonable mode of travel. Over the next decade, several more posts were established along the coast. With the Oregon Treaty of 1846, the international border between America and Canada was placed far north of Fort Vancouver. The company was forced to abandon it and they established two forts to replace it, Fort Yale in early 1848 and Fort Hope in the winter of 1848-1849, both on the Lower Fraser (Wade 1907).

It was in the mid-19th century that the fur trade really took a turn with the discovery of gold in the Fraser River. The Gold Rush of 1858 brought in thousands of miners mostly from the United States. Clashes between the new arrivals and the Nlaka'pamux led to war. Late that summer the Fraser Canyon War commenced taking place along the river between Fort Yale and Lytton. By late August, a treaty was drawn up between Spintlum, the chief over the area, and

Snyder, a commander of one of the militias, ending the fighting (Pegg 2017). While Indigenous people and fur traders often had common goals, the interests of the newcomers were in direct conflict with those of Indigenous groups due to the competition over the same resources. Even though the fur trade continued into the 20th century, the arrival of permanent settlers forever changed the way of life for both the traders and the Indigenous people.

Bridge River and the Fur Trade.

Possibly the first time an inhabitant of Bridge River would have seen a European was in 1808 when Simon Fraser traversed the Fraser River. While he was in their territory, the St’át’imc provided him with supplies as well as directions which allowed him to successfully reach the Pacific Ocean. He even “stopped near a tribal village at the mouth of Bridge River” to solicit help “to portage their canoes and equipment past the rapids” (Drake-Terry 1989:15). Given the difficulties navigating that part of the Fraser and the harsh terrain surrounding the village, the nearest fur trade posts to Bridge River were over 100 kilometers away (Figure 5). The closest posts were: Fort Kamloops, approximately 115 kilometers away; Fort Yale, about 140 kilometers distance; Fort Hope, around 160 kilometers away; and Fort Langley, approximately 180 kilometers away. This meant that either the occupants of village had to go to the fur traders, or the fur traders had to go to them.

In Teit’s (1906) ethnography on the St’át’imc, he briefly mentions interactions between them and the Hudson’s Bay Company. According to Teit (1906), the St’át’imc would trade with the Secwepemc, the Nlaka’pamux, and men of the HBC at the Fountain once a year during salmon season. Salmon was a critical source of nutrients for the fur traders and dried salmon

Figure 5. Bridge River and the nearest HBC trade posts. Map by E.L. Cahoon.

could sustain them for months. The Fountain was a place of trade located near the confluence of the Bridge and Fraser Rivers. The Upper St’át’imc, to which Bridge River belongs, would trade items such as dried salmon, dried roots and berries, dried meat, and dressed skins (Teit 1906:232). However, the situation changed when Forts Yale, Hope, and Langley were established on the Lower Fraser. After that, the Upper St’át’imc sold nearly all their furs to the Lower St’át’imc who acted as middlemen, selling the furs either to the Stó:lō who would then trade with the posts, or taking the furs to the posts themselves (Teit 1906:232). This firmly placed Bridge River in the indirect zone of the fur trade network, discussed further in the following chapter.

The fur trade brought major changes to the St’át’imc way of life, such as the introduction of new diseases and the intensification of exchange. However, the Fraser Canyon gold rush was much more detrimental to them.

> Continued exposure to diseases, depletion of traditional resources and subsequent starvation, social and economic marginalization, and the annexation of Native lands and resources were all hallmarks of the Native experience during the gold rush [Walsh 2017:37].

Despite the many hardships they faced, the St’át’imc Nation was able to adapt to the changes and still thrives. Even though the Bridge River village was abandoned after the gold rush, the people remained in the area, and today the Xwísten (Bridge River Band) live next to their ancestral village. Further chapters explore in-depth the ways in which the inhabitants of HP 54 responded to the fur trade.

Chapter 3: Theory, Hypotheses and Test Expectations

Resource intensification is the central issue of this project, specifically the increase in the number of projectile points, faunal remains, hide scrapers, and fire-cracked rock (FCR) from the previous floor to the fur trade floor of Housepit (HP) 54. First and foremost, we must explain what we mean by intensification as it has come to mean a number of different ways to increase productivity. Morgan (2015) provides four modes of increases in productivity: intensification, diversification, innovation, and specialization. Intensification is strictly defined here in the Boserupian sense (Boserup 2003[1965]), where the addition of labor increases yield but efficiency declines. Innovation is either a technological or social solution to increasing productivity. Diversification is simply broadening the diet while specialization is putting the majority of labor into just one or two resources. This project is concerned with those last two, diversification and specialization. Our first active hypothesis that postulates that the cause of resource intensification was participation in the fur trade would involve specialization. The second active hypothesis that says that increased household population led to resource intensification would entail diversification.

This thesis utilizes a multi-theoretical approach. The four theoretical perspectives underpinning the research are post-colonial theory, world-systems theory, demographic ecology, and optimal foraging theory. By structuring the hypotheses around different theories, it gives the research direction based on logical arguments originating from a multiplicity of disciplines.

Post-Colonial Theory

The entire project is interpreted through a postcolonial lens. This theory deliberately considers the process of colonization from the perspective of the colonized, understanding that

Indigenous people had the power to oppose domination and continue their way of life (Lawrence and Shepherd 2006). Postcolonial theory developed in response to acculturation studies which did not consider the agency of Indigenous people. For much of the 20th century, anthropological research into contact and post-contact archaeological sites was acculturation-based. Acculturation studies of Indigenous sites were concerned with how much their culture had assimilated to European culture. Quimby and Spoehr (1951) created one of the earliest acculturation models which was based on quantifying artifacts. They developed two major categories: new types of artifacts introduced through contact and native types of artifacts modified by contact (Quimby and Spoehr 1951). According to acculturation models, “the greater the percentage of European goods…, then the greater the degree of acculturation” (Lightfoot 1995:206). Archaeologists (Lightfoot 1995; Orser 1996) have critiqued acculturation studies as being overly simplistic and ignoring the complexities of different cultures interacting with each other.

Post-colonial theory first originated in the 1970s with Edward Said’s *Orientalism* (2003 [1978]), a revolutionary text grounded in poststructuralist theory. Said and other literary critics were exploring alternative ways to interpret colonial societies, concentrating on the interconnected notions of representation and discourse (van Dommelen 2011).

> While initial postcolonial theory was focused on the recently emancipated colonies of Europe and heavily influenced by Michel Foucault and his studies of power relations, postcolonial studies currently encompass a broad range of theories and radical critique not only relevant to colonial encounters in the more traditional meaning, but to a constructivist understanding of social identities and societies in general and, in particular, to the deconstruction of the hegemony of certain voices in written history [Spangen et al. 2015:3].

In archaeology, postcolonial theory did not appear until the 1990s and began with a classical archaeology book (Webster and Cooper 1996) on how conquered peoples responded to the

Roman Empire. Since then, considerable scholarship has been devoted to implementing postcolonial theory in archaeological contexts (Croucher and Weiss 2011; Dietler 1997, 1998; Johnson 2006; Lightfoot 1995; Lightfoot et al. 1998; Oliver 2013; Orser 2010; Panich 2013; Rubertone 2000; Sallum and Noelli 2020; Silliman 2001, 2005; Spangen et al. 2015; van Dommelen 2011).

Much can be gained from applying postcolonial theory to the archaeology of the fur trade, especially when it comes to Indigenous settlements that date to that era. Carlson (2006) in her seminal paper "Indigenous Historical Archaeology of the 19th-Century Secwepemc Village at Thompson's River Post, Kamloops, British Columbia" gave an overview of historical archaeology and its theoretical underpinnings, advocating for the application of postcolonial theory to research in historical archaeology and stressing the importance of agency. "Like Europeans, [Indigenous people] became fur traders because they perceived that there were benefits to be gained, and during the fur trade [they] still had other options. Some preferred not to be involved in the trade and found it possible to exercise that choice" (Fisher 1992:35). Whether the inhabitants of Bridge River were involved in the fur trade or were more concerned with internal matters, they had the agency to make those decisions.

World-Systems Theory

First espoused by Immanuel Wallerstein (2011[1974]), world-systems theory is based on the capitalist world-economy where different societies are linked together through economic rather than social or political ties. "This system consists of (1) the core, which is a net consumer of goods and capital, (2) the periphery, which is an exploited net producer, and (3) the semi-periphery, which is an intermediate region mediating relations between the core and the periphery" (Friesen 2013:13). According to world-systems theory, "the operation of a world-economy requires the presence of core-states and peripheral areas" where the former exploit the latter (Kardulias 1990:26). While the concept originally developed to explain how the capitalist world-economy operated, the theory can be applied to other economic systems. As Friesen (2013:47) put it, "all hunter-gatherers interact with neighbors in networks of regional groups that can be considered world-systems." By establishing that peoples of the arctic already had world-systems, Friesen could demonstrate how those systems changed as they became progressively more linked to the European world-economy.

According to Kardulias (1990), we can view the Indigenous people's participation in the fur trade as a kind of craft specialization. For specialization of this nature to occur, there must be "restricted access to the resource area…[and] the need for efficiency if a commercialized system is involved" (Kardulias 1990:31; Torrence 1986). The hunting grounds of British Columbia were most accessible to the Indigenous people and the fur trade relied on efficient production in order for Europeans to make a profit. From this theoretical perspective, Indigenous people fulfilled the role of procurement specialists within the international economic mechanism that was fur production and consumption (Kardulias 1990:33). They were an essential component of the global economy, providing furs that were consumed in Europe while at the same time consuming European goods in exchange for those furs.

An important aspect to consider is the different types of trade interactions Indigenous people might have with Europeans depending on their geographic location in relation to trading posts. Ray (1978) proposed a spatial model for the various interactions Indigenous groups might have with trading posts. In this model, when Europeans first made contact in a new region, there was only the direct trade zone. After a short adjustment period, a distinctive spatial structure developed consisting of three trade zones: the local zone, situated right around the trading post; the middleman trade zone; and the indirect zone (Ray 1978). Because distance precluded any extensive trade, people living in the indirect zone had to do most of their trading through middlemen who were better situated to travel between the post and the outer regions. That meant people in the indirect zone would be receiving used European trade items since they were not getting the items straight from the post.

One of the economic incentives for Indigenous people to engage in the fur trade was the debtor system set up by the North West Company and carried on by the Hudson's Bay Company. "Under this system [Indigenous people] were sold goods and equipment in the fall and were expected to pay for them in furs the following spring" (Fisher 1992:33). According to the account book from Kamloops (Hudson's Bay Company Archives, Winnipeg [HBCA], Kamloops Blotter B.97/d/1, 1M501, 1870-71), the advances included a wide variety of items such as blankets, shirts, soap, sugar, tobacco, candles, tea, matches, and more. Not only that, but Indigenous people were also occasionally paid for doing work around the post. The cash they received from furs and work was used to pay off their debts with the post. These advances and payments on debts were carefully kept track in the account book under the name of every individual who had an open account with the post.

Other trade relations involved groups of Indigenous people traveling to the trading post to trade large numbers of furs for goods. At the Thompson's River Post, Alexander Ross traded 550 leaves of tobacco for 110 beaver skins and one yard of white cotton for 20 prime beaver skins in 1812 (Ross 1849:200). A decade later the post's journal (HBCA, Thompson's River post journal, B.97/a/1, 1M66, 1822-23) recorded a group of Indigenous people from the upper part of the north branch of the Thompson River trading 287 beaver skins for items like guns, kettles, capots

Indigenous Trade Item	European Trade Item
5 dried salmon	3 sticks of perfume (each 4 to 6 inches long)
½ stick dried salmon	1 tomahawk, OR 1 hatchet
1 stick dried salmon	1 fathom Hudson's Bay red cloth 1 fathom Hudson's Bay tobacco
6 sticks dried salmon	1 second-hand flintlock gun, OR 1 two-year-old horse
1 large, dressed buckskin	2 fathoms and 1/2 an arm's length bone or horn beads threaded alternately with dentalia and large blue glass beads, OR 1 Hudson's Bay tomahawk, OR 1 Hudson's Bay axe, OR 1 copper kettle, OR 1 old musket, OR 1 steel trap
1 dressed doeskin	1 second-hand Hudson's Bay coat or shirt
2 large, dressed elk-skins	1 flintlock gun (nearly new)
1 good black-fox skin	1 Hudson's Bay blanket and 1 Hudson's Bay coat with hood, OR 1 horse
12 packages hemp bark	1 second-hand Hudson's Bay coat or shirt
5 packages hemp bark	1 Hudson's Bay tomahawk, OR 1 copper kettle, OR 1 old musket, OR 1 steel trap

Table 1 A list of Indigenous trade items and the European trade items that could be received in exchange (Teit 1900:261).

(a long coat with a hood), cloth, blankets, traps, ammunition, and tobacco. While not all groups could travel to the posts, the post journals give some insight as to what goods would have been in circulation in the trade networks. As stated in the previous chapter, different groups would meet at the Fountain during salmon season every year to trade. This was near the confluence of the Fraser and Bridge Rivers. In later years a pack-train from the Hudson's Bay company would visit there once a year to stock up on salmon and to trade (Teit 1900:259).

Only just a few kilometers away, members of the Bridge River Band could easily travel to the Fountain to exchange the hides they had prepared for European made goods. Table 1 lists the various equivalencies in European goods for items that were traded, based on the information listed in Teit's (1900:261) ethnography. The items enumerated are ones that the Upper St'át'imc—to which the Bridge River Band belongs—were said to have traded to the Lil'wat according to an ethnography on the St'át'imc (Teit 1906:232). However, once Forts Langley, Yale, and Hope were established on the Lower Fraser, the Upper St'át'imc sold nearly all their furs to the Lil'wat who acted as middlemen, selling the furs either to the Stó:lō who would then trade with the posts, or taking the furs to the posts themselves (Teit 1906:232). That means sometime between 1827, when Fort Langley was built, and 1848, when Yale and Hope were founded, Bridge River went from occasionally exchanging with European traders themselves to being firmly in the indirect zone and trading exclusively through middlemen.

Human Behavioral Ecology

Two of the theories used in this project sprang from human behavioral ecology (HBE). The precursor of HBE was evolutionary ecology, "the application of the natural selection theory to the study of adaptation and biological design in an ecological setting" (Winterhalder and Smith 1992:5). In the United States it began with Robert MacArthur (1958) who applied population ecology to the study of warblers. Research within evolutionary ecology first began with topics like mating systems, foraging habits, and more (Charnov 1976; Hutchinson 1965; MacArthur 1972; Macarthur and Pianka 1966; Orians 1969; Pianka 1978). Models developed from evolutionary ecology surpass the divide between the biological and social sciences in two ways: (1) by creating a place to employ the concepts that straddle the biological/cultural dichotomy, and (2) the biological and social sciences share methodological issues (Winterhalder and Smith 1992:22). Although evolutionary ecology covers a wide range of topics, the most relevant one to anthropological research is behavioral ecology. According to Winterhalder and

Smith (2000:51) behavioral ecology is the application of evolutionary ecology to the analysis of behavior.

HBE uses the same principles as evolutionary ecology but is specifically concerned with how humans interact with their environment. It first began appearing in publications during the 1970s (Denham 1971; Dyson-Hudson and Smith 1978; Wilmsen 1973) and has been so popular with hunter-gatherer research since that to try to reference them all would take a whole book or more. “Two hallmarks of HBE are the use of mathematical and graphical models to predict variation in behavior under different environmental circumstances, and the use of empirical, ethnographic data to test predictions” (Kelly 2013:31). An important aspect of HBE models is that behavior has economic implications which impact reproductive fitness (Prentiss 2019a). Most HBE models are based around the individual, on their nutritional needs, the energy they use foraging and hunting. While some have critiqued these models as being overly simplified, they highlight the situations that do not fit the pattern, allowing researchers to try and determine the cause behind anomalies. Under the umbrella of HBE are several different theoretical paradigms which include optimal foraging theory, socioecology, demographic ecology, and niche construction theory. This project utilizes demographic ecology and optimal foraging theory.

Demographic ecology can explain the relationship between populations and resources, how changes in one can affect the other. One of the earliest writers on demographic ecology was Thomas Robert Malthus in the late 18th and early 19th century. Malthus (1890[1798]) argued that low population demands lead to growth with subsistence lagging behind until increased labor brings them back into equilibrium which inevitably sets the cycle into motion again. In essence, Malthusian theory views the growth rate of a population as a dependent variable, affected by technological and food resources. “Malthus’s ideas led to the conclusion that population was bounded by an upper ceiling established by the slowly growing food supply” (Caldwell 2006:75). Archaeologists have explored models based in Malthusian theory to tease out the causes to a number of phenomena, from persistent institutional inequality to site abandonment (Kirch et al. 2012; Prentiss et al. 2014, 2018a, 2018b, 2020; Puleston et al. 2014).

In the 1960s an alternative scenario was proposed. In order to explain the origin of agriculture, Ester Boserup argued that population growth determines the intensification of resource production (Boserup 2003[1965]; Puleston and Winterhalder 2018). Boserupian theory regards the growth rate of a population as an independent variable which impacts the level of resource intensification. There have been some critics of the Boserup model of agricultural intensification (Caldwell 2006; Morrison 1994), but much like with Malthusian theory, archaeologists took Boserupian theory and ran with it. Boserup’s model inspired ideas like Flannery’s (1969) “broad spectrum revolution,” Cohen’s (1977, 1981, 1987) food crisis model, and Binford’s (Binford 1968, 2001) “population packing” model.

In order to fully investigate the intensification at Bridge River, we must also apply optimal foraging theory to the problem. Optimal foraging theory has proven to be very useful in hunter-gatherer research and has spawned many models that can help explain human behavior and decision-making. These include diet breadth/prey choice model, central-place foraging model, patch choice model, marginal value theorem, and ideal free distribution. The diet-breadth model is of particular interest to intensification research. According to this model, “the decision to include a resource depends on the abundance of higher ranked resources” (Kelly 2013:60) When foraging efficiency decreases, the diet breadth may increase in response (Nagaoka 2019:236). As the population rises, the staple resources are no longer sufficient, and the household occupants must expand their diet. One must keep in mind that for foragers, increased time spent foraging eventually leads to diminishing returns (Winterhalder et al. 1988). While intensification is not a long-term strategy for hunter-gatherers, it works for this short-lived occupation.

Archaeologists have been researching resource intensification in hunter-gatherer cultures since the late 1980s (Bird et al. 2016; Broughton 1994; Munro and Atici 2009; Winterhalder et al. 1988; Zangrando 2009). These projects can be grouped by which mode(s) of increases in productivity they consider in their study. Winterhalder and colleagues (1988) and Broughton (1994) consider diversification and subsequently intensification as the foraging efficiency decreases over time. Zangrando (2009) focuses on specialization versus diversification while Munro and Atici (2009) look at intensification, diversification, and specialization. Bird and colleagues (2016) choose to assess the role of innovation in the form of fire. Whatever the mode of increases in productivity might be, each one of these research projects combines demographic ecology with optimal foraging theory in order to examine the causes of changes in subsistence practices. For that reason, this project follows the trend, specifically the idea of specialization versus diversification.

Hypotheses and Test Expectations

The main question of this research proposal focuses on resource intensification on the final floor and roof of HP 54. As a proxy for resource intensification, we will measure the intensification of cooking. Given that cooking in the village was mainly relegated to the pithouses, as foodstuffs increased, so would the amount of reuse and overall number of cook stones. In order to measure the change, we will compare the FCR from the Fur Trade Period

(Strata V, II, and XIV) to the FCR on the last floor (IIa) and roof (Va) from BR 3. The same will be done regarding the deer NISP, the hide scraper density, and the population.

Hypothesis 1. The occupants of HP 54 hunted and processed deer to provide material for exchange. As stated previously, once Forts Langley, Yale, and Hope were established, the Upper St’át’imc traded almost all their furs to the Lil’wat who acted as middlemen for other tribes and the posts themselves. Since HP 54 was occupied until the late 1850s, we know that they must have been using middlemen to offload their hides. Economic incentives helped drive their participation in the fur trade and Table 1 lists the possible trade items they would have received in exchange. Because of this, the inhabitants of HP 54 developed a craft specialization of the production of deer hides, which would explain the changes seen between the different occupation levels.

Test Expectations:

1. Deer were more intensively hunted on II in numbers likely beyond the minimal needs of household residents. This will be seen in a higher density of deer NISP on Strata II, V, and XIV than on Strata IIa and Va.
2. Deer hides were produced out of proportion with the number of household residents. This will be seen in a higher density of slate scrapers for the fur trade period than the last occupation of BR3.
3. Cooking increased and was most intensively focused on boiling on II. An increase in cooking will be apparent in a higher density of FCR for the fur trade period. Intensity will be seen in a higher proportion of FCR pebble-sized clasts on Strata II, V, and XIV than on Strata IIa and Va. There will be a higher proportion of contraction fractured FCR on II and XIV than IIa, an indicator of more boiling.

4. The population was the same or less on II compared to IIa. This will be seen in a population estimate on floor II that is either lower or equal to IIa.

Hypothesis 2. Deer were hunted to feed and clothe an extra-dense population. The scenario posited here is that a growing household population caused the people to intensify their hunting and hide production as well as broadening their diet. When the smallpox epidemic decimated the Indigenous population in the region during the 1780s, “survivors were often forced to abandon their settlements and take refuge with kin” (Oliver 2010:75). Bridge River would be the ideal location for survivors to band together given its rich resources. This would explain the increase in density of mammal remains from BR3 to the Fur Trade period. Traditionally, the Bridge River people have relied heavily on salmon, supplementing their diet with deer, sheep, berries, geophytes, and more. A larger population could lead them to focus more on terrestrial game such as deer, sheep, caribou, rabbit, and other mammals (Teit 1906).

Test Expectations:

1. Deer were more intensively hunted on II though in numbers in line with the needs of the higher population. There will be a higher density of deer NISP on Strata II, V, and XIV than on Strata IIa and Va.
2. Deer hide production would be proportionate to the increase in population on II. There will be a higher density of slate scrapers for the fur trade period than the last occupation of BR3.
3. Cooking increased and was intensively focused on boiling and roasting on II. An increase in cooking will be apparent in a higher density of FCR for the fur trade period. Intensity will be seen in a higher proportion of FCR pebbles on Strata II, V,

and XIV than on Strata IIa and Va. The FCR will be evenly distributed between expansion and contraction fractures.

4. The population was higher on II than to IIa. This will be seen in a population estimate on floor II that is higher IIa.

Hypothesis 3. There was no difference between the two occupation levels and II was merely a standard winter housepit adaptation.

Test Expectations:

1. Deer was used at the same rate. There will be an even distribution of deer NISP between the Fur Trade (II) and the previous floor (IIa).
2. Deer hides were processed at the same rate. The density of slate scrapers will be even between the Fur Trade period and the last occupation of BR3.
3. Cooking did not increase and was even between boiling and roasting. The density of FCR and the proportion of FCR pebbles will be even between the two occupations.
4. Population was the same or less on II. The population estimate for II will be either lower or equal to IIa.

Chapter 4: Methods

As stated in the previous chapter, the test expectations for all three hypotheses involve the rate of hunting deer, the rate of processing hides, the amount of cooking, the level of cooking intensification, the type of cooking taking place, and the household population. I calculated these variables to measure the change on the fur trade floor from the previous floor. This required that I look at the density of deer NISP (number of individual specimens) to assess if the occupants of Housepit (HP) 54 focused more on deer. I also looked at the slate scraper density to evaluate the change in the rate of processing hides. The amount of cooking could be seen in the fire-cracked rock (FCR) density. The percentage of pebbles from the total FCR count was indicative of cook stone reuse occurring, which could be equated with intensification. Fracture patterns in FCR revealed the type of cooking taking place. Population was estimated using an index (Prentiss et al. 2018b) based largely on FCR density.

Because a major component of this study is the issue of hide production, I turned to ethnographic evidence to explore how hides were processed. According to Teit (1900:184), the skin must first be dried, "and the flesh side scraped free from fatty substance with a sharp stone scraper" which for the Bridge River people would most likely be made of slate. The inside is then rubbed "with the decomposed brains of deer, with marrow extracted from the larger bones, or with oil extracted from salmon-heads" (Teit 1900:184-185). Either the marrow extraction or salmon oil extraction would involve boiling which would require that the cook stones be heated and placed in water. Once the underside is soft and oily and has been dried, it is stretched on a frame and "beaten or pounded until quite soft by means of a stick sharpened at one end, or a stone scraper inserted into a wooden handle" (Teit 1900:185). At this point, the hide is prepared enough to be a robe or a blanket which would have been the preferred item of trade.

Laboratory Analysis.

I drew on the procedures outlined by Neubauer (2018) to analyze the FCR. Rocks heated and cooled in a hearth have expansion fractures which “display flat, convex, or concave breakage faces that are smooth” (Neubauer 2018). In contrast, hot rocks cooled in water have contraction fractures which are “irregular crenulated/wavy/jagged fractures on the breakage faces and display two or more ridges on the inside of the rock, leaving a rough and undulating interior surface” (Neubauer 2018:683). These observations were first made by McParland (1977) who noticed three kinds of fractures: ones causing spalls (expansion), ones causing shattered rock (contraction), and ones along the natural bedding. Neubauer (2018:690) points out three environments that cook stones may be subjected to: dry heat like an open hearth/rock griddle, moist heat such as an earth oven, and wet heat like stone boiling. Because there are no earth ovens associated with HP 54 during the fur trade period, the moist heat scenario was disregarded for this project.

Because FCR was not systematically collected for the roofs, the analysis was focused on the FCR from floors II and IIa as well as stratum XIV which was a midden on the final floor of HP 54. Each piece of FCR collected was analyzed and assigned “Expansion Fracture”, “Contraction Fracture”, “Both”, “Fire Altered Rock”, or “Rock.” This information was entered into an Excel spreadsheet. Only the rocks assigned either expansion or contraction fracture were considered, the rest were excluded from the results. The sums for the rocks with either expansion or contraction fractures were calculated and then added together to give us the sample size for each stratum. Strata II and XIV were combined as they are both from the same occupation period. Finally, I calculated the proportion of rocks with contraction fractures out of the sample size to show the amount of stone boiling that was taking place on each floor.

In order to assess the intensification of cooking, I looked through the field notes for the proportion of FCR pebbles from the total number of pebbles and cobbles. The data were recorded in an Excel spreadsheet. Relative size is an indicator of the amount of reuse the FCR experienced. Results from Graesch and colleagues (2014:189) indicate that almost half of the FCR "from multi-exposure experiments was recovered in 25.6-mm and 12.5-mm sieves" compared to the less than a third from single-exposure. While the records from the Bridge River excavations are not as fine-grained as Graesch's experiments, the archaeologists did keep count of the number of FCR pebbles versus cobbles found in each unit. I calculated the proportion of the pebbles from the total number for the combined Strata II, XIV, and V as well as the combined Strata IIa and Va.

Statistical Methods.

While relative proportions may indicate change, they must be subjected to statistical analysis in order to determine if there is significant difference. Custer (2017) used the difference of proportion test which accounts for different sample sizes and determines if the two values are different or not. It is also known as the two proportion z-test and is used to test whether the null hypothesis is true or not. The $\hat{p}_1$ is the proportion for the first data set and the $\hat{p}_2$ is for the second data set. The n_1 and the n_2 represent the sample size for the first and second data sets, respectively. The $\hat{p}$ is the pooled sample proportion which is then used to compute the standard error of the sampling distribution difference between the two populations. The final value is then used to find a p-value using a z-score table. The p-value is compared to the significance value, in this case .05, and if it is less than that, then there is a significant difference between the two proportions.

Because the sample sizes varied so much for each stratum, a simple difference in proportion may not be a true indicator of change. As stated by Custer (2017:257), “varied sample sizes have important effects on the differences among the calculated percentage values that are not intuitively obvious” to the researcher. In order to account for this, I needed to apply the above statistical test to my results which involved comparing two proportions. Only two of my factors required this type of analysis, the percentage of FCR that indicated boiling for both occupations and the percentage of FCR pebbles, which signaled reuse and subsequently intensification of cooking.

Densities of FCR, Deer, and Slate Scrapers

In order to evaluate the change in the amount of cooking occurring on each floor, I calculated the density of FCR for each stratum. By calculating the density of FCR per cubic meter excavated, I was able to avoid the issue of sample size which would be affected by the total volume excavated for each stratum. The data for strata V, II, and XIV were combined to provide the total FCR density for the fur trade occupation while the data for Va and IIa were combined to give us the total FCR density for the final prehistoric occupation. The data for the FCR count and volume excavated were gathered from a number of reports for grants sponsored by the National Endowment for the Humanities (Prentiss 2013, 2014, 2015, 2019b) as well as publications (Prentiss 2017b; Prentiss, Foor, and Hampton 2018; Prentiss et al. 2020). It follows that as people cooked more, they would require more cook stones to perform this task, resulting in an increase in the density of FCR from one floor to the next.

In order to determine whether there was an intensification of the hunting of deer, I compared the deer NISP (number of identified specimens) count from floor II to floor IIa, controlling for the sample size by quantifying bones per cubic meter excavated. To obtain the most probable amount of deer for each stratum, I considered any category that had a likelihood of being deer which included *Odocoileus sp.*, Cervidae, Artiodactyl, Large Mammal, Medium/large mammal, mammals in the size 5 class, and mammals in the size 4 class. Cervidae is the family made up of deer, moose, elk, and more. Artiodactyl is the order to which Cervidae belong as well as other even-toed ungulates like sheep. Medium/large mammal is anything from dog-sized to deer-sized while large mammal is anything deer-sized and larger (Prentiss 2013:91). Mammals in the size 5 class are bigger than deer and mammals in the size 4 class are between beaver and deer (Prentiss 2019:105). This is a reasonable assumption to make considering the fact that deer are the most common mammal within those size categories by quite a bit at Bridge River.

By examining the density of slate scrapers, I was able to assess whether the level of hide working changed between floors. For the residents of Bridge River, slate scrapers were the favored tool of choice for processing hides. There is an abundance of slate in the Bride River valley within a relatively short walking distance of the village which occupants used to create a unique slate tool industry (Prentiss et al. 2015:276). Scrapers were the most popular type of tool to make out of slate. Use-wear analysis of the slate scrapers show both coarse and very fine striations which “likely reflect application of the tools to hides at different stages of production” (Prentiss et al. 2017:79). If there is a change in the density of slate scrapers, that implies that there were changes in the level of hide production. Because the number of slate scrapers recorded for the fur trade period occupation were for all the layers combined (Prentiss et al.

2017), I also combined the number of slate scrapers for IIa and Va before I calculated scraper density for each occupation period.

An important test expectation for this study is the estimated population for floor II and floor IIa. Population was calculated using the methods laid out by Prentiss and colleagues (2018) who developed a divisor based on ethnographic and archaeological assumptions which when applied to the FCR density on a floor results in a population estimate. The divisor used depends on the number of hearths: one hearth equals a divisor of 160, two hearths equals 80, three hearths equals 54, and four hearths equals a divisor of 40 (Prentiss et al. 2018:547). Floor II has one hearth and floor IIa has four hearths, which means I used the divisors 160 and 40, respectively.

Chapter 5: Results and Discussion

Because this project is focused on how lifeways changed in Housepit 54 during the fur trade, I compared different variables from the fur trade layers (V, II, and XIV) to the previous occupation (Va and IIa). Throughout my analysis, I examined fire-cracked rock (FCR) for fracture patterns and amount of reuse. I also looked at the densities of FCR, deer NISP (number of identified specimens), and slate scrapers per cubic meter excavated. Finally, I estimated the population for both occupations. As a refresher, the test expectations involve whether deer were more intensively hunted on II; whether deer hides were more intensively worked on II; if cooking was intensified and what type of cooking was occurring; and if the population changed.

Fire-Cracked Rock

As stated in the previous chapter, FCR from Strata II/XIV and IIa were analyzed for either expansion fractures or contraction fractures. Over 900 pieces of FCR were examined and the information recorded in Excel spreadsheets. The rocks that either displayed one type of fracture pattern or the other were the ones ultimately considered in the statistical analysis. Different FCR categories were excluded from further analysis in this study. One type was FCR from Strata V and Va as the cook stones from the roofs were not systematically collected. Another category was FCR that were simply thermally altered and had no breakage faces as well as FCR that broke along natural fault lines. Finally, rocks that turned out not to be thermally altered had to be excluded. Results from this laboratory analysis are shown in Table 2.

Stratum	Expansion	Contraction	Total	% Boiling
II	61	242	303	79.87%
XIV	3	270	273	98.90%
II+XIV	64	512	576	88.89%
IIa	26	84	110	76.36%

Table 2. FCR fracture analysis.

Because the difference between the two active hypotheses is the level of boiling, the statistical analysis was focused on the percentage of contraction fractures for each stratum. As explained in the previous chapter, I used the two-proportion z-test to determine whether there was a significant difference between the floors. First, I compared II to IIa without including XIV with II. The percentage of contraction fractures FCR for stratum II was 79.87% and for stratum IIa was 76.36%. When these amounts were inputted into the formula, the resulting score was 0.772. Using the z-table, I got a p-value of 0.4412. Because the significance was set at $p < .05$, the results were not significantly different. When I included XIV with II, the percentage of contraction fractures for the fur trade floor was 88.89%. The resulting z-score was 3.5654. Using the z-table, I got a p-value of 0.00036. With this additional stratum incorporated into the analysis, we now had a significant difference between the two levels.

In order to assess the intensity of reuse, I went through the field notes and recorded in a spreadsheet the number of cobbles and pebbles excavated from Strata V, II, XIV, Va, and IIa. Table 3 shows the results for each stratum. Unfortunately, some of the units only recorded the number of FCR unearthed and failed to denote the number of pebbles versus cobbles. The percentage of pebbles out of the total FCR excavated gave a rough estimate of how much they were reusing the stones. For the Fur Trade period occupation, the percentage of FCR pebbles was 96.16%. The percentage for the previous occupation was 93.27%. After inputting the values

Stratum	Cobbles	Pebbles	Total	% Reuse
V	851	20631	21482	96.04%
II	113	3657	3770	97.00%
XIV	82	1913	1995	95.89%
Occ. Total	**1046**	**26201**	**27247**	**96.16%**
Va	380	4578	4958	92.34%
IIa	121	2360	2481	95.12%
Occ. Total	**501**	**6938**	**7439**	**93.27%**

Table 3. FCR reuse analysis.

into the two-proportion z-test, the result was a z-score of 10.72. Using the z-table, I obtained a p-value of < .00001. With the significance set at $p < .05$, the difference between the two periods is clearly significant.

To compare the overall amount of FCR for the different occupations, I calculated the FCR density per cubic meter excavated for each stratum. This gives us an indication of how much more cooking was occurring from one occupation to the next. Table 4 lists the results from these calculations. The density for floor II is 2261.2 while the density for the previous floor is 1331.3. This is an increase of almost 70%. When the other layers are incorporated, the FCR density ends up being 2640.1 for the fur trade and 1027.6 for the previous occupation. The difference is even bigger, increasing by more than a factor of 2.5.

Stratum	FCR	Vol. Excav.	Density
V	16182	7.03	2301.8
II	2225	0.984	2261.2
XIV	4295	0.585	7341.9
Occ. Total	**22702**	**8.599**	**2640.1**
Va	2992	3.297	907.5
IIa	1736	1.304	1331.3
Occ. Total	**4728**	**4.601**	**1027.6**

Table 4. FCR densities.

Faunal Analysis

For the faunal portion of this study, I compared the deer NISP (number of identified specimens) from the Fur Trade period to the previous occupation. In order to control for the amount excavated, I measured the density of deer remains per cubic meter for Strata V, II, XIV, Va, and IIa. As stated in the previous chapter, deer included anything that could potentially be deer: *Odocoileus sp.*, Cervidae, Artiodactyl, Large Mammals, and Medium/large Mammals. Table 5 shows the results.

Stratum	NISP	Vol. Excav.	Density
V	1284	7.03	182.6
II	934	0.984	949.2
XIV	308	0.585	526.5
II+XIV	1242	1.569	791.6
Va	1360	3.297	412.5
IIa	497	1.304	381.1

Table 5. Deer NISP densities.

Right away it was apparent that the density on Stratum V was very low even though it has the second highest NISP. This was due to the extremely high volume excavated, more than double the next largest stratum. For this reason, I excluded the roofs from the statistical analysis and focused on strata II, XIV, and IIa. The data for layers II and XIV were combined because XIV was a midden on floor II. The density of deer NISP/m^3 for the Fur Trade period is 792 and for the previous floor is 381. That means the density of deer-like remains more than doubled from one floor to the next.

Slate Scrapers

A clear indicator of hide working is the presence of slate scrapers which were the preferred tools for processing hides at Bridge River. Much like with the deer NISP, to compare the number of slate scrapers from the Fur Trade era to the last floor and roof of BR3, I calculated the density of slate scrapers per cubic meter for the two occupations. Table 6 displays the results of my calculations. Because the number of slate scrapers for the Fur Trade period was for all the associated strata, I combined the volume excavated for those layers and I combined the data for

Strata	Slate scrapers	Vol. Excav.	Density
V+II+XIV	235	8.599	27.3
Va+IIa	15	4.602	3.3

Table 6. Slate scraper densities.

Va and IIa as well. The density of slate scrapers/m^3 for the Fur Trade period strata was 27.3 and for the previous floor and roof was 3.3. That means the density of slate scrapers increased by more than a factor of 8 between one occupation and the next.

Population Estimate

As stated in my methods chapter, Prentiss and colleagues (2018b) developed a divisor for FCR that can predict the population for each housepit floor based on the FCR density and the number of hearths on each floor. Table 7 shows the results of my calculations. From the FCR density and number of hearths, the population estimate for floor II is between14 and 26 people depending on whether stratum XIV is included. The population estimate for floor IIa is 33 people. Because this formula is based on FCR density, stratum XIV's extremely high density as shown in Table 3 is probably skewing the results. Not only that, considering the fact that there is only one hearth activity area, there would be very little room for 26 people. For that reason, I went with the population estimate calculated from just Stratum II. With 14 people living on the fur trade floor, that means that the population was less than half of the that of the previous floor.

Stratum	FCR D.	Hearths	Divisor	Est. Pop.
II	2261	1	160	14
II+XIV	4156	1	160	26
IIa	1331	4	40	33

Table 7. Population estimate.

Summary

Now we must address how these results compare to the test expectations of the different hypotheses. My analysis of the FCR shows first and foremost that there was a significant increase in the amount of boiling happening on floor II versus floor IIa. While the household chose to boil more than they roasted and grilled on both floors, during the fur trade they decided to focus even more on boiling. Secondly, the level of cook stone reuse significantly increased from IIa to II, indicating that there was an intensification of cooking. The occupants of HP 54 were attempting to get the most use out of their cook stones as they could. Figure 6 illustrates these changes. To sum it up, more boiling occurred on floor II and cooking itself was intensified, the former agrees with Hypothesis 1 and the latter agrees with Hypotheses 1 and 2.

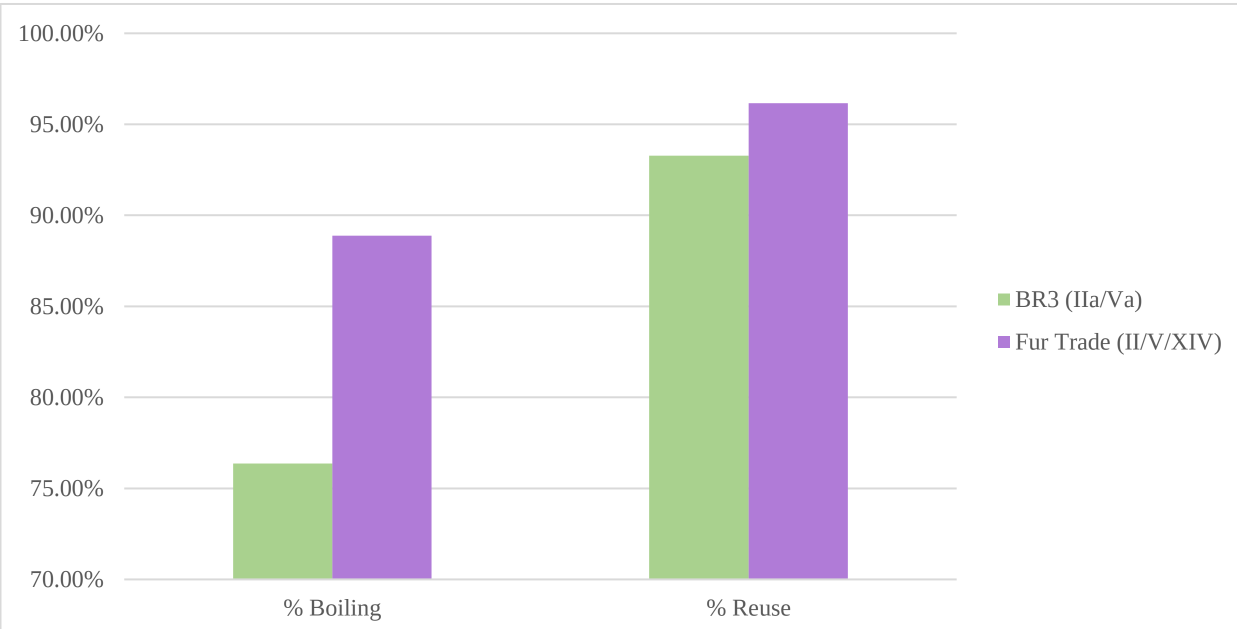

Figure 6. FCR cooking and reuse results.

Another aspect of FCR considered in this project is the density of it on each layer. From my analysis, I discovered that the density of FCR per cubic meter excavated increased by a factor of 2.5 from the last floor of BR3 to the Fur Trade period. This signifies that the amount of cooking greatly increased during the fur trade occupation. I also looked into the densities of deer NISP and slate scrapers. Through my calculations it was apparent that the density of deer-like remains more than doubled from BR3 times to the Fur Trade period. Slate scraper density increased as well between the IIa occupation and the II occupation by more than a factor of eight. As slate scrapers were the main tool for processing hides at Bridge River, it is clear that the level of hide production greatly increased from one period to the next. I estimated the population for both occupations using the divisor provided by Prentiss and colleagues (2018) and the population dropped by more than half during the Fur Trade period. Figure 7 visualizes the results for these four factors. While the results of the FCR density as well as the densities of deer NISP and slate scrapers seem to fit with the test expectations of both Hypotheses 1 and 2 which predicted that all three of these variables would increase from the previous occupation to the next, when the population estimate is incorporated it is clear that only one hypothesis is true. A decrease in the estimated population only fits in with the test expectations of Hypothesis 1.

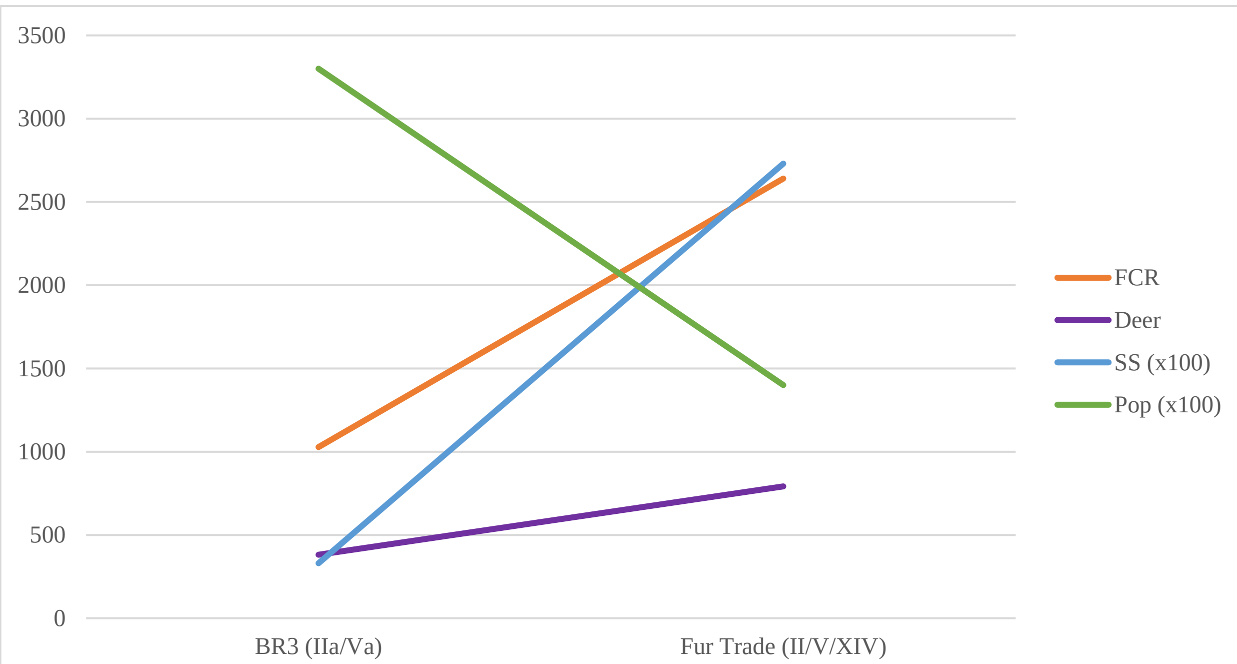

Figure 7. Change in population and densities of FCR, deer NISP, and slate scrapers.

Discussion

In the third chapter, I presented three possible hypotheses for household activity in HP 54 during the fur trade. The first hypothesis proposed that the occupants of HP 54 intensified the production of hides to participate in the fur trade. The second hypothesis stated that they intensified their hunting to feed and clothe an extra-dense population. The third hypothesis acted as the null hypothesis that no real change occurred. As a whole, the results clearly do not agree with Hypothesis 3, the inactive hypothesis. None of the test expectations have been met and therefore, I can disregard that hypothesis. The increase in FCR reuse and the densities of FCR, deer NISP, and slate scrapers cannot be explained by the change in population, as the estimated population for Stratum II was considerably lower than IIa. For this reason and because evidence points to an increase in boiling during the Fur Trade period, I can rule out the second hypothesis. The results for all variables—FCR, deer NISP, slate scrapers, and population—fall in line with the test expectations of Hypothesis 1. All four test expectations of Hypothesis 1 have been met by the results. (1) Deer were more intensively hunted on II in numbers likely beyond the minimal needs of household residents. (2) Deer hides were produced out of proportion with the number of household residents. (3) Cooking increased and was most intensively focused on boiling on II. Finally, (4) the population was the same or less on II compared to IIa. The implication is that Hypothesis 1 is most likely true, that the occupants of HP 54 were mass producing deer hides in order to provide material for exchange during the fur trade.

Now that I have established that the residents of Bridge River were participating in the fur trade, we can place the situation in its geographical and historical context. As previously stated, the Bridge River site was near no trading posts, located in a canyon along a difficult to navigate river. Because of these factors, the area was part of the indirect zone (Ray 1978), where people had to go through middlemen to trade their furs as distance precluded trade directly with the post itself. While it is known that many of the hides in circulation were coming from the indirect zone, very few archaeological studies have researched aboriginal settlements within this zone that were occupied during the fur trade. Here we have a site with a long history of occupation that was (1) located in the indirect zone, and (2) producing hides to fulfill the demands of the fur trade.

At the time that the Bridge River site was occupied, approximately from the 1830s to the late 1850s, much was going on in British Columbia. New forts were being established on the Lower Fraser River. Two of these were in response to the Oregon Treaty of 1846 which established the international border between the United States and Canada, cutting off the Hudson's Bay Company from the mouth of the Columbia River. In 1849, a colony was established on Vancouver Island, a precursor to the influx of settlers that would be arriving. Less than a decade later gold was discovered in the Fraser River, starting the Gold Rush of 1858. This brought in thousands of miners to the region, which caused strife with the Indigenous people and brought disease. That combined with the widespread starvation due to restricted access to their traditional food ways caused the St'át'imc populations to decline (Walsh 2017:32). What this means is leading up to the abandonment of the site, most likely during the time of the gold rush, much change was occurring in the surrounding region. Despite that, the demand for furs was constant and had a measurable difference in the archaeological record.

The Bridge River site provides much valuable information on how an Indigenous household was impacted by the fur trade and how they responded by actively pursuing their own economic interests. They successfully managed to develop a craft specialization of the production of deer hides while still taking care of the needs of all the occupants of the house. Some of the European trade items found in HP 54 were clearly modified for Indigenous use, such as two metal arrowheads and three jingle cones (Augé et al. 2017). This shows that while they may have changed their economic practices, they still maintained many of their cultural ones. Bridge River adds to the growing body of postcolonial literature, proving that Indigenous people's response to the fur trade and colonialism was not acculturation, but much more complicated involving active participation and exchange of ideas and culture between them and the Europeans.

Chapter 6: Conclusion

This thesis has explored the cause behind resource intensification at a hunter-gatherer-fisher site during the Fur Trade period from numerous angles. The hypotheses were based in multiple theoretical frameworks including postcolonial theory, world-systems theory, demographic ecology, and optimal foraging theory. Three hypotheses were developed: (1) that the fur trade drove the intensification of deer hunting and hide production; (2) that the resource intensification was caused by a higher household population; and (3) that there actually was no significant change from the previous occupation to the fur trade. These hypotheses were tested using multiple measures. Fire-cracked rock (FCR) was examined for fracture patterns as well as the amount of reuse and density. The densities for deer NISP (number of identified specimens) and slate scrapers were also calculated. Finally, the population was estimated for both floors by applying a divisor based on the number of hearths to the density of FCR. This multi-theoretical, multi-variable approach proved the first hypothesis correct.

One potential issue of this thesis is the FCR analysis. Most notably is the fact that I had not previously analyzed FCR beyond simply identifying it. While I did consult Dr. Anna Prentiss on some of the rocks in the beginning, the majority of the time I made the assessment myself on what type of fracture pattern was displayed. As I analyzed more FCR, I became more familiar with how contraction and expansion fractures looked on the rocks from Bridge River. After I finished my analysis of both floors I even went back and looked through the first couple of bags I analyzed, and I did not find any rocks whose classification needed to be changed. Because of this, I feel confident that my results would not change if I went back and re-analyzed all the FCR from the two occupations.

Another possible issue in the FCR analysis is that different experimental archaeological studies have yielded different results. In his thesis, Ng (2017) includes a comparative study of various FCR replication studies. There is very little consensus between the fracture types observed. While this may be due to material type, even within the same type, different observations have been made. At Bridge River, many types of rocks were used as cook stones, which can complicate the analysis as different materials may respond differently to heat. A future avenue of research for the site would involve gathering various lithic material for experimental studies to determine how they react under intense heat and extreme temperature changes when placed in water for boiling. As more studies utilize FCR analysis, the methods will be improved, and possibly new ones invented.

This project contributes to anthropological research in multiple ways. For one, it highlights concerns in research utilizing human behavioral ecology (HBE). Traditionally, HBE has been used to explain human decision making as it pertains to hunting and gathering based on an individual's nutritional needs. With this case, however, it is clear that the cause of resource intensification was not simply to fulfill the caloric requirements of the household but was actually due to economic demands. For this reason, researchers must be cautious when implementing HBE models and to consider reasons other than nutrition-related ones for why subsistence patterns might change. That is not to say that HBE needs to be discarded completely, simply bolstered by other theories in order that hypotheses and theories are not biased but well-rounded and defensible.

Another contribution this project has made is to historical archaeology. Several studies of colonial archaeology in North American have focused on the idea of continuity versus change in Indigenous culture. Another term for continuity is persistence which

> acknowledges the physical and symbolic violence of colonialism but also allows for a continuum of processes that encapsulates various forms of perseverance, ranging from intentional resistance or ethnogenesis to more subtle shifts in political organization and group identity that draw on and are structured by dynamic cultural values and practices [Panich 2013:107].

One study investigated a fort in northern California that had Native Alaskan men harvesting sea mammal furs and doing other work. Many of the men developed relationships with Native Californian women and established households. The researchers found that the colonizers' organizational principles could be seen on the broader colonial landscape, "while the worldviews and conventions of the underclass were most visible in the community and household organization" (Lightfoot et al. 1998:217). Another study compiled various research on California that challenged the prevailing assumption that Native Californian culture had gone extinct. Panich discovered that disruptions in technology and social organization are "mirrored by important continuities of practice and identity that demonstrate a dynamic yet traceable trajectory from precontact times through the end of the colonial period and beyond" (2013:116). A study of a site in the Fraser Valley, located on the Lower Fraser River, investigated a hops yard from the 1870s where Indigenous people harvested hops. It was during this time that the Stó:lō Nation was formed which helped them be more affective as a group and Indigenous leaders began to adopt some European practices in order to maintain their positions of authority (Oliver 2013). Oliver claims that indigenous desires were "part and parcel of entanglements within the colonial landscape, which encouraged social and cultural recombination according to certain parameters" (2013:111).

At Bridge River, cultural change and continuity across the late pre-Colonial and early Colonial periods were measured by comparing the fur trade floor of Housepit 54 to a nearby site, S7istken, occupied in the late pre-Colonial period (Smith 2017). Smith looked at the resource diversity and equitability, light duty tool abundance, mammal abundance, tool production abundance, hunting/butchery tool abundance, general-purpose tool abundance, ungulate cranial and axial element abundance, non-local item abundance including interior versus local, and prestige good abundance. She found that aspects like household organization, intra-household equality, subsistence strategies, and exchange networks persisted across the late pre-Colonial and early Colonial periods. Several changes occurred during the Fur Trade period. There was an intensification of the exchange economy; trade was consolidated in the Interior; and household production was more concerned with producing exchange items.

While the focus of my research was on the cause of resource intensification at HP 54 during the Fur Trade period, it does contribute to the debate on continuity and change of Indigenous culture in Colonial times. By confirming that the specialization of hide production was in order to provide exchange materials, I helped reaffirm the changes noted by Smith that there was an intensification of the exchange economy and that the household had shifted most of their focus to producing exchange items. From my study, continuity can be found in the persistence of Indigenous lifeways. Deer hides were still processed using slate scrapers, the same tools used at the Bridge River village 1000 years ago. The occupants of HP 54 also used cook stones for their food preparation which have been utilized for this purpose since deep antiquity all over the world.

A critical aspect of postcolonial archaeological research is agency as it considers the decisions that Indigenous people made. “Agency is about the possibilities afforded within any given social landscape, though such possibilities are themselves shaped by local power structures and senses of appropriateness” (Oliver 2013:103). Studies like my project and others (Oliver 2013; Panich 2013; Silliman 2001) view both change in and persistence of Indigenous culture in the face of colonialism as expressions of agency. By placing the focus on Indigenous agency, archaeologists can help counter the outdated narrative which still persists today that Indigenous people were passive players during the Colonial era. Further research in historical archaeology can explore the various ways Indigenous people exercised their agency during the turbulent time of colonization.

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