

HARRISON RIVER CHUM FISHERY: THE ETHNOGRAPHIC AND ARCHAEOLOGICAL PERSPECTIVE



by

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INTRODUCTION

The Chehalis Indian Band commissioned this project to gather traditional knowledge on the Harrison River chum fishery that may contribute to management practices consistent with the Wild Salmon Policy. Traditional knowledge of the chum fishery was obtained through formal and informal interviews with Chehalis participants. Guiding the interviews were four major research questions:

- 1) where were chum harvested in the Harrison River?;
- 2) what tools, traps and methods were used to harvest chum and in what locations were they implemented?;
- 3) during which months or periods of the run were chum harvested?; and,
- 4) what purposes were specific chum runs put to and was this related to specific characteristics in the run?.

This report also includes archaeological data relating to the Harrison River salmon fishery excavated from the site of Chocolate Bar (DhRI-2) on the Harrison River. The wood and bone spears, ground slate knives and salmon remains recovered from this rock shelter site provide evidence for the long-term use of traditional fishing locations, harvesting techniques and processing practices. Combined, the archaeology and traditional knowledge reveal a practise that is central Chehalis culture and economy.

SECTION 1: CHEHALIS' SETTLEMENT, AND TRADITIONAL FISHING ECONOMY IN THE HARRISON RIVER VALLEY

BACKGROUND TO THE ENVIRONMENT AND FISHERY IN THE HARRISON RIVER

The most productive ecological zone in the Harrison River Valley is between the confluence of the Chehalis and Harrison Rivers and the outlet of Morris Creek (Figure 1). These systems are known for being some of the most productive fish habitats in the Fraser Valley. Between Morris Creek and the Chehalis River is a low-lying alluvial fan, out of which of spring slough channels that enter the Harrison River. These sloughs have been naturally created over many thousands of years by ground water percolating up through the gravels and flowing towards into the Harrison River.

In the past, these slough systems were mostly clear of the silts that clog them up today and provided extremely productive natural spawning grounds for salmon which in turn attracted many other birds and mammals. Today, the Chehalis routinely cut channels into the slough systems so that the salmon have access. One of the primary concerns at the present time is on account of beavers making dams. The dams cause silt to settle at the bottom of the slough allowing grass to take root. This is thought to be detrimental to the salmon habitat because salmon prefer to spawn on clean gravels. The debris in sloughs is also thought to prolong the amount of time that salmon spend in the main channel.

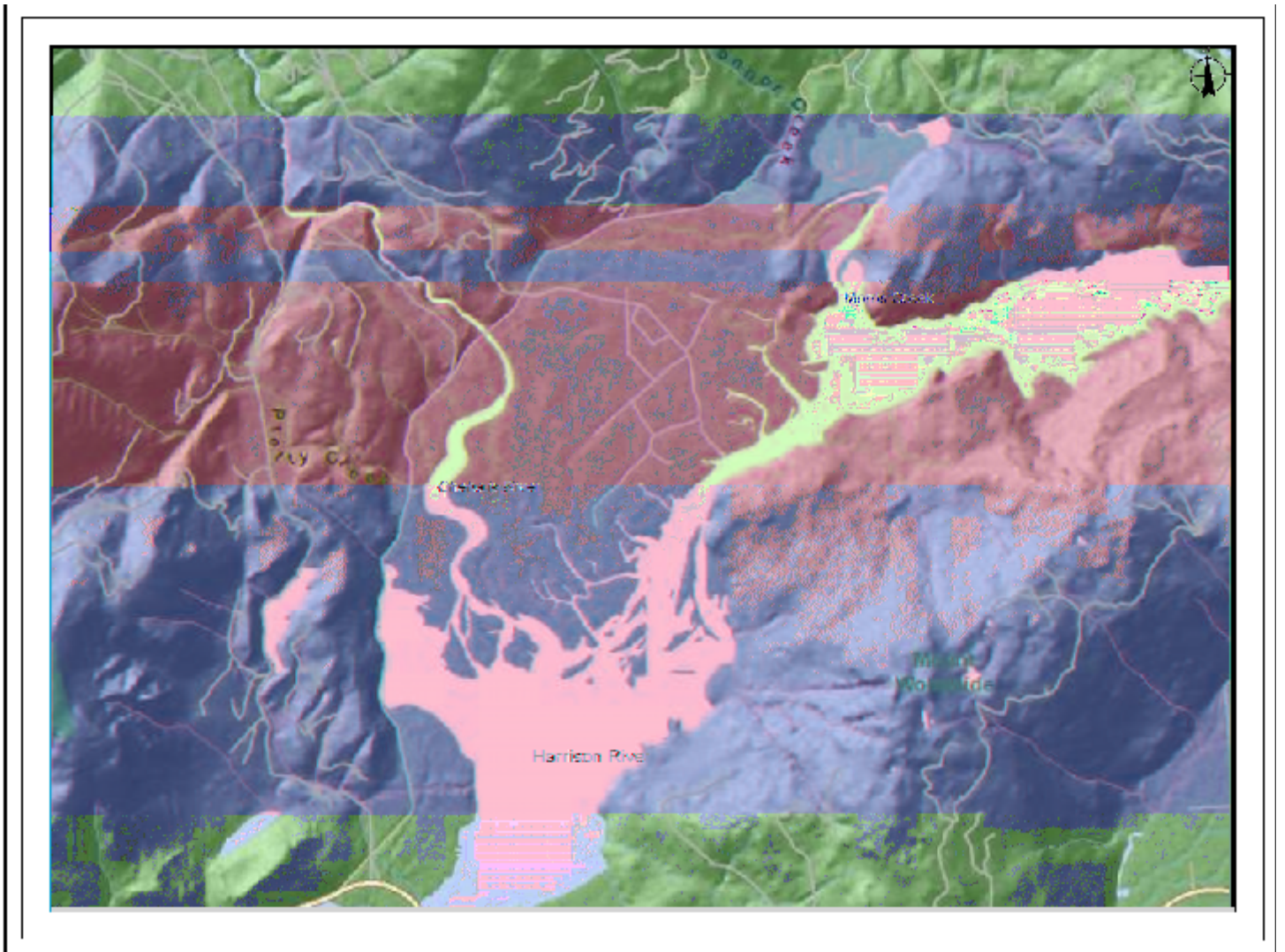


Figure 1.1. Harrison River, Chehalis River and Morris Creek

One of the most important aspects of Chehalis' wealth was the abundance of salmon available to them. Historically, there were more salmon in the Harrison system than any other tributary on the lower Fraser River and it accounted for a large percentage of salmon in the overall Fraser system (See Appendix A; Kew 1992: 210-212).

Based on figures collected during the 20th Century, the Harrison River received approximately 58.2% of chum, 32.4% of coho, 26.9% of chinook, and up to 12% of the sockeye that entered the Fraser system (Kew 1992). The percentage of pinks that enter the Harrison system is not reported, but they are also in the Harrison system for much of the fall. The number of salmon in the Harrison system is of great significance in a region

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where a strong correlation between salmon abundance and human population exists (Kew 1992; Donald and Mitchell 1975; Hayden 1992).

Of all seasons in the Harrison River Valley, autumn was the most “bustling time because [the] whole ecosystem just erupts” (Kelsey Charlie). “The abundance of salmon that returns causes it to erupt. There are so many fish out there because there are so many runs all occurring at the same time in the Harrison system” (Kelsey Charlie). Hill-Tout (1904: 316), who was the first anthropologist to visit the Chehalis on the Harrison River, noted the bounty of the ecological landscape and described how outside groups coveted the salmon in the Harrison River Valley as well:

The settlements or territories of the StsEélis [Chehalis] were regarded with envious eyes by the surrounding tribes. Their waters abounded in fish, the shallows in their river forming one of the favourite spawning grounds of the salmon.... The adjacent mountain-slopes contained large numbers of deer, bear, elk and goats as well as other small animals. In winter the lake, river and sloughs were covered with ducks of all kinds. So famous indeed was their territory [specifically the Harrison River] for its plentiful supplies of salmon that outside tribes from long distances used to come every salmon season and pay the StsEélis a kind of tribute or royalty to be permitted to fish in their waters. Bands from the upper Salish tribes and from far up and down the coast would congregate there in the fishing season (Hill-Tout 1904: 316).

By controlling the salmon resources in the Harrison River Valley, the Chehalis were able to regulate how, when, and which visitors harvested salmon in their territory. The “strong and populous” Chehalis tribe was “able to more than hold their own” against visitors that would steal from them or cause disturbances (Hill-Tout 1904: 316). One of the main concerns that the Chehalis had regarding salmon was that they were harvested in a culturally appropriate manner, and in a way that would ensure their continuance.

Unlike many Stó:lō, Cowichan, Saanich, and Sechelt who seasonally followed the salmon into the Fraser Canyon, the Chehalis did not. According to Kelsey Charlie, the wealth of salmon in the Harrison watershed made it unnecessary. Chehalis had access to the sletsis [wind dried salmon], from trade routes that passed through the Harrison

watershed. Outsiders who passed through would bear gifts of sletsis in exchange for *sq'éyle* [cold smoke]. *Sq'éyle*, which was readily accessible in the Harrison watershed, is the winter preserve and was like currency.

PRE-CONTACT CHEHALIS SETTLEMENT IN THE HARRISON RIVER VALLEY

The Chehalis were situated in a landscape conducive to trade, transportation and communication that made the Harrison River socially and economically comparable to the Fraser Canyon. In many respects, the Chehalis can be thought of as a frontier group that played an important role as middlemen bridging the language and cultural differences between Coast and Interior Salish peoples (Sanders and Ritchie 2008). In addition to playing host during the fall salmon season, the Chehalis also benefited from the Harrison River and lake being part of a long distance trade route—which according to James Teit, was a more important route than the one that continued up the Fraser River (1910: 43). The Chehalis' role as a frontier group was all the more important because of the strained relationships between the Lillooet and lower Fraser Stó:lō groups (Suttles 1990: 457, Duff 1952: 22).

Archaeological evidence provides insight into just how heavily occupied the Harrison River Valley was prior to contact with Europeans. Within the productive salmon zone between Morris Creek and the Chehalis River, there were at least 15 settlements that collectively amounted to approximately 75 pithouses and 13 plank houses. Settlements are found on both sides of the Harrison River as well as on mid-river islands (Figure 1.2). The settlements on the north bank of the Harrison River are all situated beside the confluence of slough channels and the river. All of the houses within the settlements were built within 50 meters of the River or individual sloughs that provided consistent access to salmon resources. In general, the large plank houses were located on the main Harrison River channel, whereas, pithouses tended to be built alongside sloughs. Combined, the inhabitants of these settlements were situated to monitor and control the resources in each slough, the Harrison River, the Chehalis River, and Morris Creek.

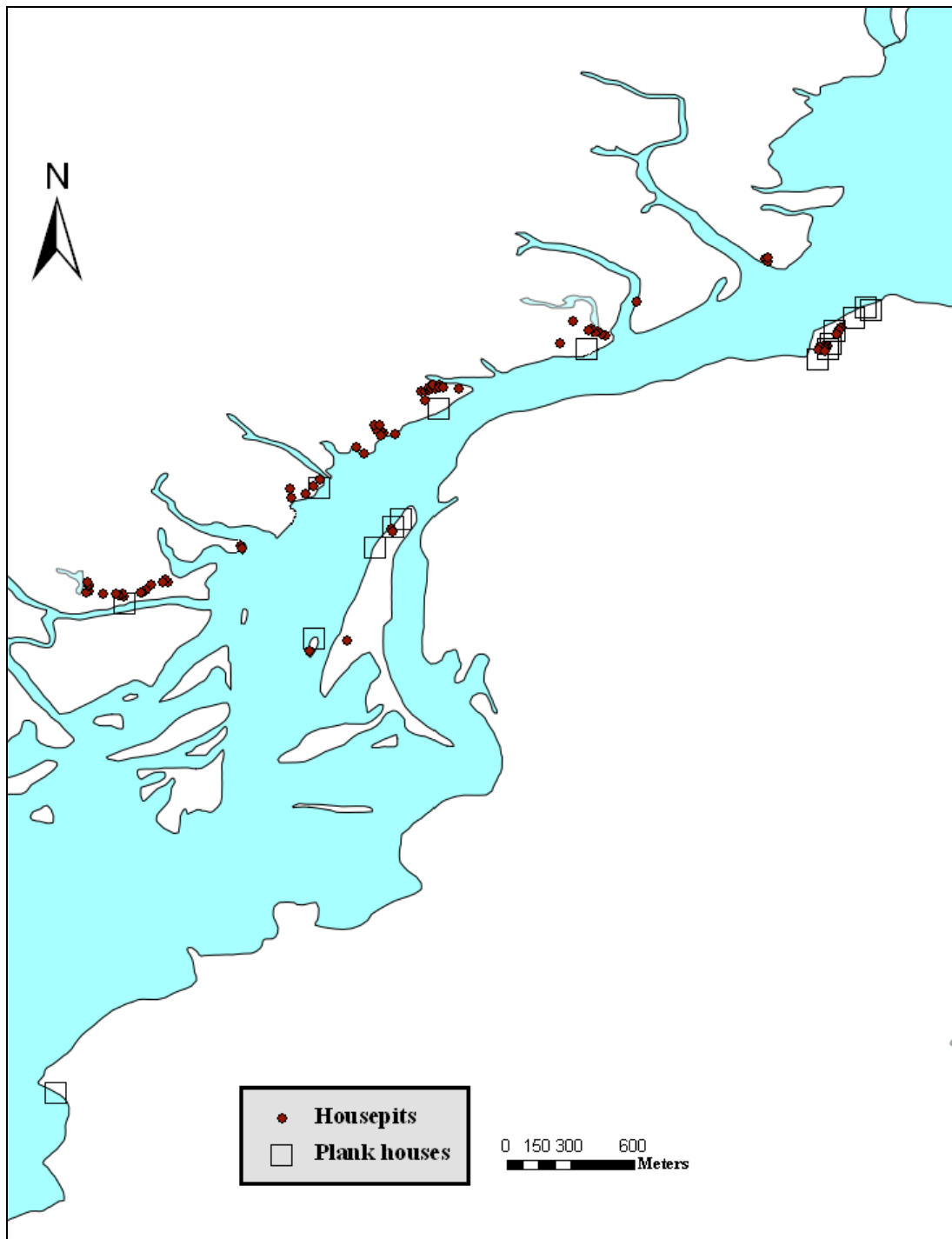


Figure 1.2. Distribution of archaeological housepits and plank houses on the Harrison River

SECTION 2: TRADITIONAL CHEHALIS CHUM FISHERY

CHEHALIS TRADITIONAL KNOWLEDGE

The information provided here is based on the knowledge of many Chehalis community members. Formal interviews have been conducted with Wayne Charlie, Dana Charlie and Kelsey Charlie. These men, who are between the ages of 40 and 55 are not elders, but are considered knowledgeable by the rest of the community. While each of these men were taught by all of the community elders while growing up, they each point to several key figures that spent considerable time teaching them about the old ways. Kelsey's primary teachers were his great uncle Ed Leon, grandfather Jimmy Charlie, William Phillips, and Sylvester Joe.

Today, Kelsey has stepped into a leadership position in community politics and family gatherings. Dana and Wayne got their extensive knowledge of the landscape and fish by spending much of their early life hunting and fishing with Chehalis elders. Dana has been working with Chehalis fisheries for several decades and in his spare time instructs the younger generation to hunt and fish the way his elders taught him. Dana's primary instructors were his grandfather Jimmy Charlie and his great uncle, Ed Leon. Wayne works at the Weaver Creek Spawning channel and is considered an authority on fishery related issues. He obtained much of his knowledge from Ed Leon, Jimmy Charlie, John Leon and Jim Leon. Echoing sentiments shared by the others, Wayne noted that "[the elders] kept their knowledge alive through when the Europeans came and passed it down. Everything you see today that we still have is related to traditional practices and ceremonies".

Traditional knowledge is a "body of oral history, stories, environmental awareness, technological expertise, and landscape memory" (Nicholas 2006: 352) that is

passed down inter-generationally (Lepofsky 2008). Chehalis traditional knowledge provides the Chehalis people today with unique insights into the land and resources in the Harrison watershed. The intergenerational nature of traditional knowledge was described by Wayne Charlie: “This information was passed on from my grandfather—that’s how I learned about the late runs and the blackheads. I also heard about it from my uncles, like Uncle Ed, and from my mother’s side too, the Leon’s. My grandfather and grand uncles had this information passed on to them by their elders then. Information about these fish and species that were used was always passed down from generation to generation”.

The advantage of traditional landscape knowledge is apparent to every Chehalis person because among other things, it ensures that food will always be available. “Information about where and when the main peaks of spawning for the different runs helped to guarantee you would get what you wanted. If you knew the fish and the time of year they spawn, you’d know exactly when to go and put the traps out or spear. They [Chehalis ancestors] used this knowledge to preserve fish for the winter months” (Wayne Charlie). Many of the Chehalis still have this knowledge today, however their ability to act on it is severely limited.

The most prominent theme that came up in the interviews was selective fishing—a practice that was enforced by the teachings of the elders. A selective fishery was all the more important when the salmon came into the Harrison system in great abundance all at the same time. The Chehalis developed a selective fishery to cope with this abundance and to ensure that it would continue. All of the traditional fishing practices reinforce this perspective. Using the methods for catching salmon that were developed over millennia, the Chehalis could avoid killing female salmon that were spawning, and select fatty fish if they wanted to eat it fresh, and non-fatty fish if they wanted to preserve it for winter. Non-fatty chum salmon are perfect for preserving and provided the Chehalis with the potential to put food aside for winter and use the remainder for trading or gifting away at ceremonies.

TIMING AND TYPE OF CHUM SALMON IN THE HARRISON WATERSHED

The Chehalis recognize four distinct runs of chum in the Harrison system (Table 2.1). These runs are distinct from one another morphologically, temporally, and according to spawning destination.

The first chum enter the Harrison system in July and are small, bright and silvery in colour with orange or pink flesh. These chum continue up into Harrison Lake where some end up at Silver River, Spring Creek, Bear Creek, Mystery Creek, and other small creeks—the majority continue up to the Birkenhead system. The “paw” marks that are so distinctive of chum salmon are barely visible on this first run. This first run can pass through the Harrison River Valley in just one day and is often in the company of sockeye.

The second run are colloquially termed “slough dogs” because they usually spawn in the slough channels on the north bank of the Harrison River between Morris Creek and the Chehalis River. This run begins around the last week of September or first week of October and lasts until the beginning of January. They have green coloured backs and white sides and their flesh is white, which is considerably different from the orange and pink flesh of the first run. They are also bigger, longer, and heavier than the first run and have a more distinctive pink “paw” mark on their sides.

The third run is colloquially termed “river dogs” because they tend to stay in the main channel of the Harrison River to spawn. These main-stem chum become more noticeable in the Harrison River around the third week of October as they separate from the slough dogs. Although it seems that many of the slough dogs and river dogs come up together, they branch off as the water level rises with increasing rain. According to the Chehalis, these runs were formerly more distinct, but today their migrations overlap each other. Like the slough dogs, these river dogs are also mostly spawned out and dead by the beginning of January. In addition to coming at a slightly different time and staying in main channel, these chum are larger on average than the slough dogs, have a bigger hump and appear to be “flatter”. However, they have similar colouring and the same distinctive “paw” mark as the slough dogs.

The last run of chum in the Harrison system is known as “blackheads” because of their distinctive black heads. “It’s a deep black and it’s kind of shiny on the outside and

black on the inside. It's kind of like looking in a mirror. And the whole top of their back is black also, but they still have the same pinkish "paw" mark on side that river dogs and slough dogs have. They are blackish purple on the sides whereas the other dogs are green on the top and white on the sides with a pinkish "paw" mark. They turn black on top when they get older and are ready to spawn" (Wayne Charlie October 6, 2009).

Blackheads are smaller than both slough dogs and river dogs. Blackheads enter the Harrison River at the end of December or early January after most of the slough dogs and river dogs are gone. Blackheads tend to and spawn in the upper part of the Chehalis Reserve in Morris and Weaver Creeks, and Evans slough. The blackhead run lasts until the end of February today but likely lasted longer in the past.

Table 2.1. Timing and type of chum salmon in the Harrison River

Chum run	Run time	Spawn destination	Physical characteristics	Comments
Birkenhead chum	July-August	Harrison Lake, Birkenhead	Small, bright and silvery. Not very distinctive "paw" mark. Orange or pink flesh.	This run passes through the Harrison River without stopping. Eaten fresh.
Slough dogs	Late September-early January	Sloughs on the north side of the Harrison River, Chehalis River, Morris Creek	Bigger, longer and heavier than Birkenhead run. Green coloured back and white sides, with a more distinctive pink "paw" mark. White flesh.	These are known as "resident" fish because they do not leave the Harrison River
River dogs	Early October-early January	The main channel of the Harrison River	Larger and flatter than slough dogs. Also have a bigger hump. Same internal and external colouring and "paw" mark as slough dogs.	
Blackheads	December-February	Morris Creek, Weaver Creek and Evans Slough	Black head and back with a black/purple side. Pinkish "paw" mark.	

THE LOCATION AND METHOD BY WHICH CHUM WERE HARVESTED IN THE HARRISON RIVER VALLEY

Traditionally, the most common places to harvest chum salmon were in the sloughs that ran perpendicular to the Harrison River, the main channel of the Harrison River, Chehalis River, and Morris Creek. Because the water conditions and natural landscape are different in each of these four main locations, Chehalis fishermen would utilize specialized techniques that maximized their ability to select the best salmon. In the following section, I describe some of the differing techniques that were used to catch chum salmon in these primary harvesting areas. In all cases traditional methods for catching salmon were selective.

Torch-lighting in the Harrison River Valley

Torch-lighting is a fishing method used by the Chehalis to select only the best fish when all five species of salmon are in the Harrison at once. The practice was conducted during the middle of the night so that fish would be attracted to the light and their eyes would shine brightly. This method of selecting fish was important because many of the salmon in the Harrison River were undesirable or off-limits, being either half spawned females or not edible “white socks”. Torch-lighting provided the means to identify and catch the best salmon in the river from a distance of up to 20 feet away.

Because the Harrison River is so clear, torch-lighting could be done whenever there were enough salmon in the river to make it profitable. Ed Leon noted that the Harrison River would look like a town of lights because so many people had torches burning on their canoes. Most Chehalis men above the age of 40 regularly torch-lighted and have had many memorable experiences. The main aspect that each of these men emphasize however, is the selective nature of this fishing technique; when torch-lighting, only the best and biggest salmon and those that are not spawning were selected. 30 years ago, it was common for grandparents to send their grandsons torch-lighting with very specific requests for the size, number and species of salmon that they wanted.

All the older generation had dugout canoes. Dana Charlie’s grandfather, Jimmy Charlie, had a canoe that was 33 feet long, 33 inches wide and approximately 22 inches deep. It was a fairly shallow canoe. When Dana began torch-lighting in the late 1960’s,

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they used a kerosene lamp tethered to the front of the canoe. His elders told him that they formerly used birch bark saturated with eulachon grease. They would wrap the eulachon covered bark around another stick, preferably crab apple because it is one of the hardest and slowest burning woods. One strip of birch bark would burn for at least 30 minutes at a time. As soon as the light started to burn down, more grease drenched bark would be wrapped around the stick. Another difference between traditional torch-lighting and the more contemporary method is that a platform for the “torch” was laid across the canoe. A screen was then placed at the back side of the platform to prevent sparks and smoke from interfering with the steersman. This was not necessary with a kerosene lamp.

When Dana Charlie torch-lighted, he would have three people in the canoe at a time, one at the back, one at the front, and one in the middle. The fishermen would pole from the main boat launch up to Morris Creek before beginning to drift downward. Torch-lighting was only conducted drifting downstream because this allowed each person to fish at the same time. It was important however, that the man in the front did most of the fishing. As the current bore the canoe downstream, the man at the back was responsible for lightly pushing to keep a steady movement and balance.

The route a crew took down the river depended on the type of salmon they desired. Coho, chum and sockeye, for example, tend to stay near to the bank where it is shallow. They prefer to be in two to three feet of water. Chinook on the other hand prefer being in five or six feet of water, which required the canoe to venture into the swifter, deeper part of the river.

There is a certain amount of technique involved in spearing a salmon while torch-lighting. For example, if you hit the salmon wrong, they do not die and will begin struggling very aggressively. When this happens, a large fish can cause lights or spears to break or people to get knocked of. Chehalis torch-lighters always try to target the back of the salmon near to the head because this paralyzes the salmon so it cannot kick as much or damage the spear. The prongs on the outside of the spear would go around and lock onto the belly of the salmon so it could not escape. The components of the spears were fixed so they had to be well taken care of. “If the fish twisted and turned it could weaken or break your spear, that’s why you try to paralyze it” (Dana Charlie October 26, 2009). Spearing the salmon any lower on the back or side does not work well because a spear

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could rip right through the belly cavity, or alternately, provide very little control over the fish as you attempt to steer it into the canoe.

It is also necessary to have the proper tools for torch-lighting. Besides the canoe and the light, a three-pronged spear was also part of the traditional toolkit. The shaft of these spears would, accordingly to Dana Charlie, be made from crab apple or fir trees. Fir wood is light (wet or dry) and straight, whereas crab apple wood is often bent and becomes very heavy when it is wet. Often, the central prong of the spear would be made from the non-fruit bearing branches of crab apple trees or deer bones. The outer prongs would usually be antler from goats or deer. Traditionally, these various components would be hafted together with sinew from a deer. More recently, many of the Chehalis used a metal prong on the end of a long pole.



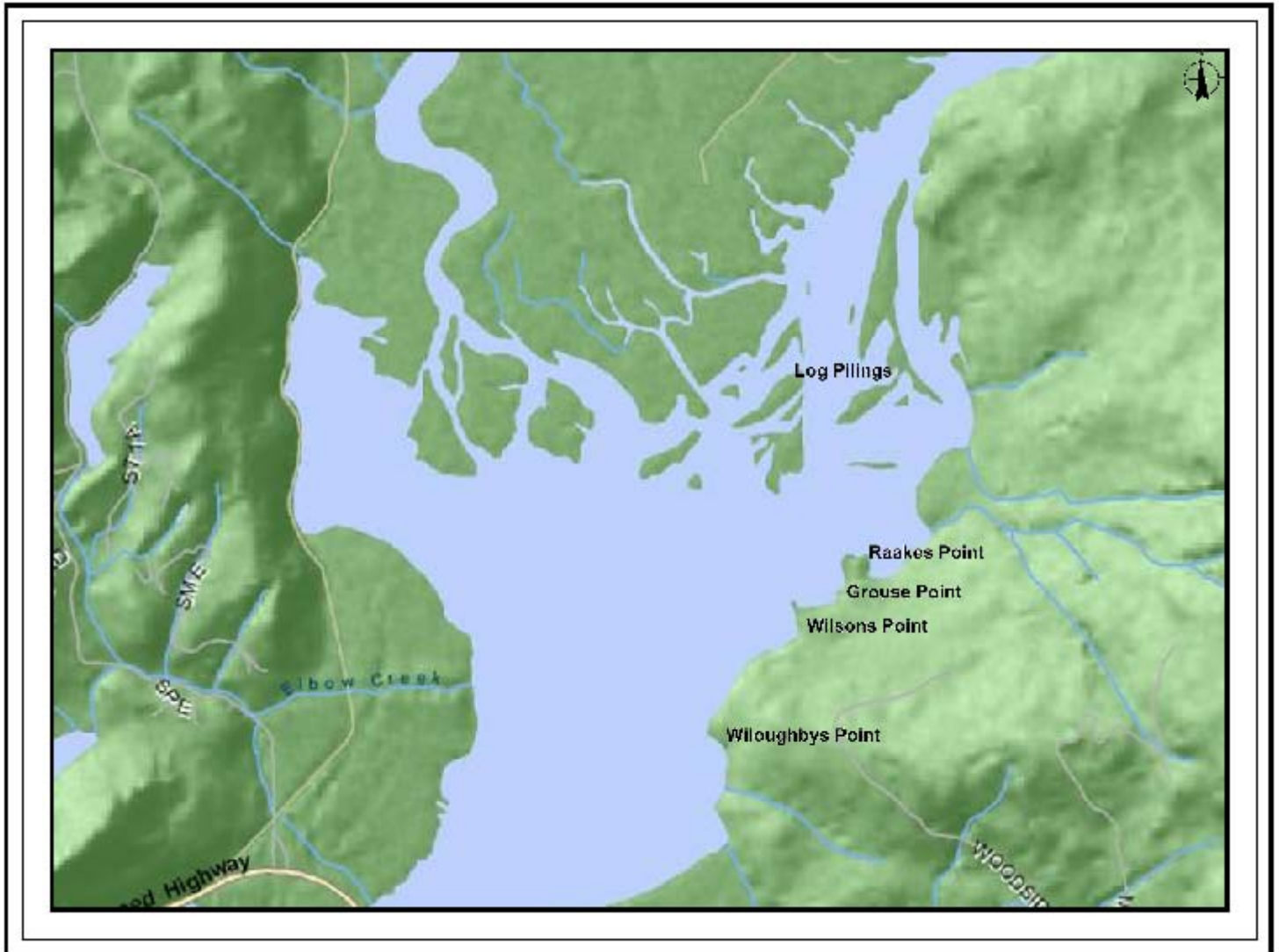
Figure 2.1. Torch-lighting in the Harrison River (adapted from Hilary Stewart 1977)

Spearing salmon in the Harrison River Valley

Chum salmon were also speared during the day from many different sites on the Harrison River. This technique was a popular method for selecting salmon that has a considerable antiquity. A few of the main traditional spearing locations were Wiloughby's Point (*Kw'ikw'exwelhp*), Wilson Point (*Shxots'i:em*), Raakes Point (*Chtl'èylem*), Grouse Point (*Titxwemqsel*), and Chocolate Bar at the outlet of Morris Creek. Each of these locations has considerable cultural significance, which is clearly seen archaeologically and in the associated Halkomelem place names. Wilson Point, for example is the location where people would traditionally catch spring salmon for the first salmon ceremony. Of these locations, the rock formations at Raakes Point, Grouse Point,

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and Wilson Point have created back eddies which provide natural pools that spawning salmon are drawn to. The clear, slow moving water at these locations provided a means for Chehalis fishermen to select only the fish they desired.



2.2. Spear fishing locations on the Harrison River

More recently, many of the Chehalis would spear chum from the log pilings at what the elders called the “rapids”. It is the area just below Sasquatch Crossing; Chehalis fishermen would stand on the log piles with long poles that had gaffe hooks on the end. After identifying the choicest fish at a distance, the fisherman would push his pole into the water and snag it from underneath. The tools and method of this system likely

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differed from more traditional ways of spearing salmon because it was done in swiftly moving water.

Slough channel fish traps

Based on traditional knowledge, slough channels have long been one of the main areas for selectively harvesting chum salmon. The presence of ancient house remains situated immediately beside the sloughs provides further support for the antiquity of this practice. Traditional knowledge reveals salmon that were harvested in sloughs were caught differently prior to contact Europeans. The main difference between the harvesting techniques is that prior to contact there were likely far fewer beaver dams to be modified for fish traps. In both cases, the method was highly selective.

Historically, many Chehalis used beaver dams to their advantage by breaking open a small part to allow salmon past before blocking it off again with temporary fences. This natural fish trap would pen the salmon in until the Chehalis could select the ones they desired. “They used to take the biggest and the best fish that way. And they never, ever, used to take females. That was one of the cardinal rules.... They wanted to see fish coming back year after year after year. So they would just target the males in here. The other reason is that males have more meat.... we have such an abundance of salmon out here that you can be selective” (Dana Charlie).

Because the salmon were penned up, people could select the fish that they wanted when they wanted it. During the autumn months when the Chehalis desired to preserve as much as possible, the turnover of salmon in these traps would be quite quick. The female salmon and other undesirable salmon would be thrown back into the Harrison River and the selected fish would be caught with a net, clubbed, or pulled out with a barbed pole so that more salmon could be lured in.

Not all salmon harvesting in slough channels was done through penning with beaver dams - many techniques were much more basic. For instance, Dana Charlie remembers watching Jimmy Charlie and Ed Leon placing sticks and logs to channel the fish and pull them out with barbed poles. One of the most common places for elders to harvest salmon was at the mouths of sloughs. Dana Charlie recalls that his family’s elders would harvest most of their chum for smoking from Jimmy Charlie’s, Ed Leon’s and Bill

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William's sloughs. All generations would help with this method of salmon harvesting, including young children equipped with sticks.

Prior to the arrival of Europeans, when the sloughs were generally clear of beavers and silt, it is thought that fish traps were more elaborate. One such trap at John Mack Slough was explained to Kelsey Charlie by his grandpa. This trap involved excavating a man-made slough that intersected the natural one but also ran parallel to it. A fence was then constructed across the natural slough to divert the fish into the man-made channel that could be blocked off once the fish were in. The Chehalis placed white rocks on the base of the artificial channel to enhance the visibility of the salmon.

This method of harvesting salmon was highly selective because the salmon were penned and easily visible. The Chehalis speared or just pulled out all the fish that they wanted. Like the historic period traps that utilized beaver dams described by Dana Charlie, the unwanted salmon were tossed back over into the natural slough so that they could spawn.

Chehalis River fish traps

The following excerpt from the well-known Chehalis story records how a fish weir was utilized on the Chehalis River long before Euro-Canadians ever visited the Harrison River Valley.

“Your younger brothers on the upper reaches are starving because you have hindered the passage of the salmon up stream. I pray you to make some arrangement with us, whereby the salmon may for a season have a free run that my people not perish wholly by hunger”. He then presented the chief and headmen with the blankets he had brought. The [Chehalis on the Harrison River] listened to his words in a friendly manner, and made a compact with him to **lift their weir at certain times during the salmon run and allow the fish to go upstream**, in return for which he was to pay them a yearly tribute of blankets (Hill-Tout 1904) emphasis added.

The precise location of this weir is not known to the Chehalis that I interviewed, however, it is thought that it would have been somewhere on the Chehalis flats, but above where the river diverges into many different channels. There were several traditional

types of traps used on the Chehalis River in addition to this ethnographically documented fish weir that spanned the entire river. Each of these methods is highly selective.



Figure 2.3. Example of fish weir used to control the movement of salmon in large river channels (adapted from Hilary Stewart 1977)

One method used by Jimmy Charlie on the Chehalis River was to fish with a combination cone style trap and rock weir. “They used to build these cone traps out of willow; they were only about four feet long and the shape of an ice-cream cone. They used to have two poles sticking out with ropes hanging off of them” (Dana Charlie). The rock weir was used to control the water flow and influence the movement of the fish. If done properly, the fish would jump over the rock weir and right into the basket. Only the desirable fish would be kept and harvested, the rest would be placed back into the river.

Another method of salmon harvesting that Dana Charlie witnessed in the Chehalis River also involved rock weirs, but the fish were speared instead of caught. Dana watched his grandpa and other Chehalis men construct rock walls to control the

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flow of water and the movement of salmon in a section of the Chehalis that was 40-50 feet across. The men staggered the rock walls that extended up to 25 feet into the river from the bank in an upstream direction. At the top of the series of rock walls a single wall in the shape of a half-moon was constructed. The men would select the fish that they wanted as they passed by the staggered rock walls and spear the most desirable ones with spears. The spears that the men used are described as being traditional two-pronged bone spears hafted onto a wood shaft.

Morris Creek fish traps

Further up the Harrison River, the Chehalis also had fish weirs across Morris Creek close to Chocolate Bar. They built two weirs, one that would block off the creek to a certain point, and one to fence off the side channel. When the fish swam into the side channel they would block them off. This is similar to the traditional fish trap at John Mack Slough described to Kelsey Charlie. This trap would act as a pen where people could keep the fish fresh. The fish could be left for a week or two and ensure a source of fresh fish even during the wintertime (Wayne Charlie).

When these weirs were not in use, there would be a gate in the weir that they could open to let the other fish continue on to spawn. The live fish could still be trapped in the side channel pen. If the side pen ran low on fish, the Chehalis could fill it up by just closing the main gate for a while until more fish were trapped. Once the pen was full they would once again open the main gate to let fish through. Someone would watch these traps regularly, but it would not be necessary to be there all the time, they could leave for a while and when they came back they could open or close the traps (Wayne Charlie).

The management of these weirs depended on the quantity of fish in the river. Fish would run all year round, but during the peak season between mid -July to end of February, these traps would have to be much more closely watched to allow spawning to continue. From March to June, there were many less salmon and the main gate could be closed for much longer periods of time. These weirs were permanent structures so that people who wished to paddle up Morris Creek would have to pick up their canoe and move it around the weir (Wayne Charlie).

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According to Wayne Charlie, this fish weir that he was told about by the elders was still visible in 1973. “I [Wayne] could still see cedar poles sticking up out of the ground that were part of that weir. They were kind of on an angle and stuck up out of the ground.... They used to drive these poles into sand, because most of the ground was sand. And they used rocks to anchor the poles where they couldn’t drive the poles deep enough into the sand. Morris Creek was mainly sand though and the poles would be driven 2-3 feet deep.



Figure 2.4. Salmon in Morris Creek near to where fish trap is reported to be located

CHUM SALMON PROCESSING

The chum runs

The first few weeks of the first chum run would generally be eaten fresh or traded because they have a higher fat content and more flavour. The high fat content makes the first chum run undesirable for smoking because they don't thoroughly dry and are more susceptible to rot. These chum have an orange or reddish flesh quite distinct from the later chum runs that have a white flesh. Today, the elders typically can the early orange/red fleshed chum. Traditionally, there were so many chum that many would be traded for wind-dried fish with people in Hope or elsewhere in the Fraser Canyon. In part, these chum were traded for wind-dried fish that could be stored for winter as a security against the possibility of poor later runs.

Despite the differences between the later chum runs, they were mostly treated the same. They also tasted the same after being cold-smoked. In general, chum are not as rich and are more muscular than sockeye or springs, making them easier to cold-smoke. Of all the chum runs, the Chehalis probably utilized the blackheads the least of all because they came into the Harrison system once people had settled in for the winter ceremonies. It is possible that the blackhead chum were more commonly eaten fresh as people grew tired of winter preserves.

Preserving chum for the winter

Nearly as soon as the chum began to run, the Chehalis would begin to prepare salmon stores for the coming winter. “This was just a way of making sure that there was going to be enough to eat in case it was really cold or a hard winter. You can never predict what was going to come up, even in the past, they couldn’t. So when fish started showing up, the first thing they would do was catch fish and preserve them to make sure they had enough because the later runs might not show up, at least not the great numbers that they needed” (Wayne Charlie). In some years, the Chehalis would be able to eat fresh fish all the year through, but not always—preserves were a protection. Not only was the winter an unpredictable time for resources, it was also the season that the Chehalis and their neighbours devoted to elaborate and long-lasting ceremonies.

The Chehalis were famous among their neighbours for the great quantities of cold-smoked salmon known as *sq’éyle* that they could prepare during the fall when sockeye, chum, chinook, pink, and coho were in the Harrison River. They would use these reserves to trade, give away at ceremonies, and eat through the winter. The most sought after were the chinook (spring), but the chum were the most abundant.

During the early part of the 1900’s, many Sts’ailes people built plankled smokehouses in which they would live, smoke salmon and store surplus food. Many of these smokehouses were built near to the confluence of slough channels and the Harrison River to provide greater access to, and control of resources. Clarence Morgan told James Leon and Wayne Williams (November 22, 1999) in an interview that he remembered 12-14 of these smokehouses lining the Harrison River circa 1930. Smokehouses ranged considerably in size depending on the size and wealth of the household groups that

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constructed them. Typically, these smokehouse would be between 10-20 feet high, allowing for space between the fires and several rows of salmon



Figure 2.5. Chehalis smokehouse (ca. 1950's)

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To preserve chum, or other salmon the Chehalis would typically follow the same general process outlined here by Wayne Charlie (see Figure X):

- 1) Fillet the salmon by cutting it down the back
- 2) Cut off the head and fins to avoid spoiling
- 3) Place sticks through the bones at the back of the salmon to hang it by
- 4) Place the salmon on racks between 8-10 feet above the ground surface in a smokehouse
- 5) Create a fire using dry wood such as cedar
- 6) Make the fire smolder and smoke using green alder (these alder would be large, from six inches to a foot in diameter). The alder keeps the fire from burning too hot and creates a smoky taste.
- 7) The fire is watched closely for the first 30 minutes to ensure it doesn't flame up too much
- 8) Keep the fire smoldering for two days
- 9) Once the fish are half-smoked through heat and smoke, place them on a higher rack where they can be cold smoked.
- 10) Place a new batch of filleted salmon on the lower rack to be heated and smoked
- 11) Store the salmon in the smokehouse on the higher racks where they have been cold-smoked



Figure 2.6. Smokehouse and salmon smoking (adapted from Hilary Stewart 1977)

Storing Chum through the winter

Traditionally, the Chehalis stored cold-smoked salmon in their smokehouses, in storage areas in their pithouses or plank houses, and in cedar boxes placed either underground or on posts aboveground. Although the Chehalis do not store their salmon in these ways any more, the late introduction of refrigeration to the Chehalis caused them to continue using many traditional methods until quite recently (Wayne Charlie). Additional evidence for these traditional storage methods comes from the ethnographic and archaeological records.

In 1858, Dr. Friesach visited a Chehalis village on the Harrison River and was given a tour of both plank houses and pithouses. Among his observations, Friesach “noticed a wooden contraption hanging with a rope from a pole....this was used for the drying of the salmon and the keeping of provisions. They have to be hung up as a protection against the dogs and other animals” (1858: 49). Underground storage can be inferred from large cultural depressions that are typically found near to pithouses and plank houses. These storage features are particularly prominent in one area at site of Hiqelem (Figure 2.7). Being underground, both caches and pithouses would have acted like cellars. The cedar boxes that were placed underground would keep the food cool, dry and safe and could be easily dug up as needed.

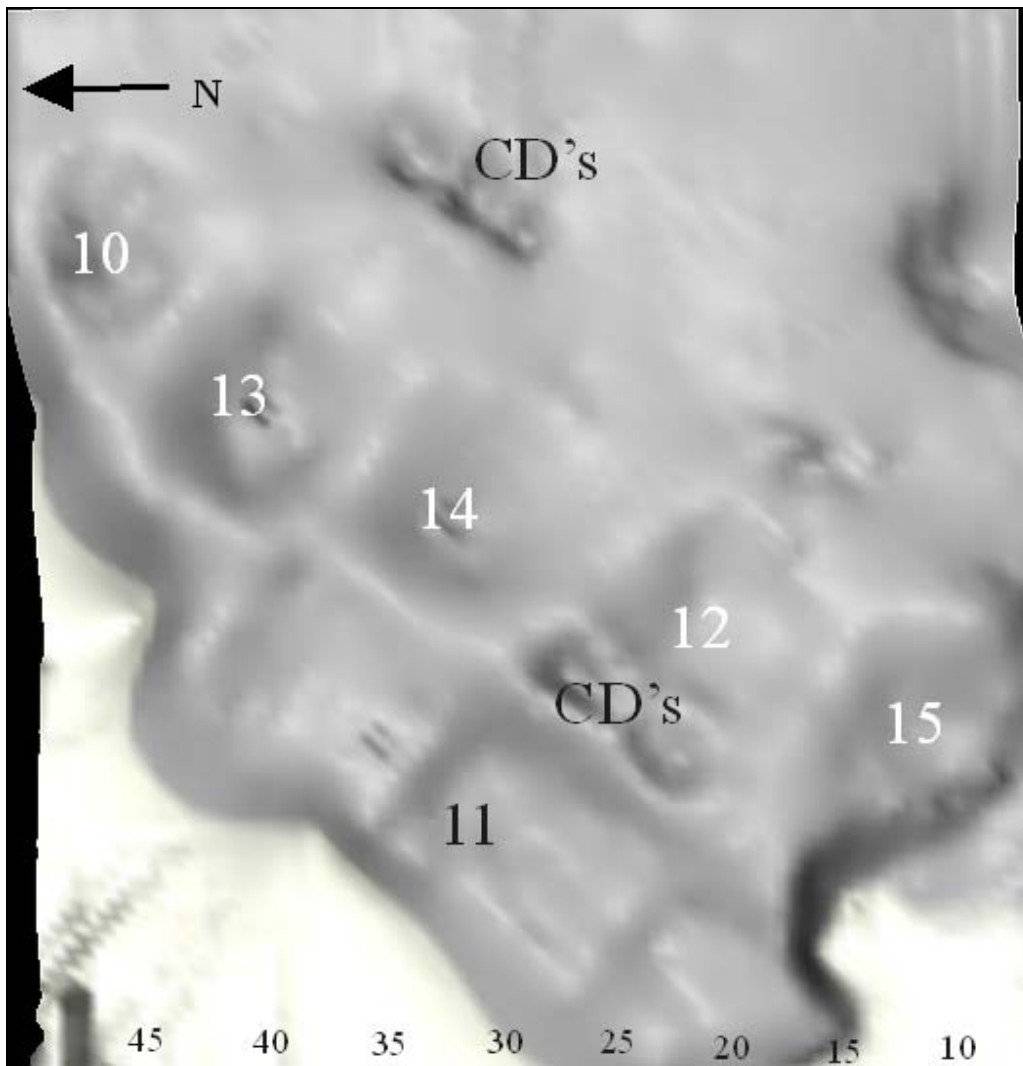


Figure 2.7. Cultural depressions (CD's) that may have been used for storing boxes of salmon at the site of Higelem

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SECTION 3: ARCHAEOLOGICAL EVIDENCE FOR THE CHUM FISHERY: A VIEW FROM CHOCOLATE BAR

This section presents the results of the excavation conducted at the Chocolate Bar rock shelter (DhRl 2), a multipurpose site located at the confluence of Morris Creek and Harrison River in Chehalis territory (Figure 1). The excavation was one part of the Harrison River Chum Fisheries Project, investigating the social and economic significance of the chum fishery to the Chehalis people. The archaeological data compiled from the excavation provide time depth to the project and highlight the importance of the salmon fishery for the ancestral, historic, and modern Chehalis community. The Chocolate Bar site was excavated in late July, 2009 by Morgan Ritchie and Chris Springer under the auspices of the Chehalis Aboriginal Rights and Title Department, The Stó:lō Nation Research and Resource Management Centre, and The British Columbia Archaeology Branch. The purpose of the excavation was to record all features and collect artifacts, flotation samples, and radiocarbon samples from all cultural deposits. This particular site was chosen for the project because of its known importance as a spear fishing location and its proximity to a large fish weir that was built across Morris Creek near its confluence with the Harrison, remnants of which were still visible in the early 1970's.



Figure 3.1. North facing view of Chocolate Bar rock shelter (DhRI 2)

The focus of this section will be on the archaeological evidence directly related to salmon procurement and processing that was found during the excavation, and how it relates to the ethnographic and traditional use knowledge already compiled on the chum fishery. The relevant data include hearth features; bone, wood, and lithic implements used in the practice of fishing and fish processing; artifactual evidence that speaks to seasonality at the site such as paleoethnobotanical and zooarchaeological remains; and a single radiocarbon sample. Additional details regarding the objectives, methods, and findings of the excavation specifically will be supplied in the final report prepared for the three supporting bodies mentioned above.

Features

During the excavation the remains of 12 hearth features were uncovered in the two 1 m x 1 m contiguous units placed within the rock shelter (Figure 2). The excavation units were laid along a north – south axis extending out from the back wall of the shelter.



Figure 3.2. West wall of profile of excavation unit 1 showing three of the hearth features outlined in dashed red

There was no specific location used for the hearths but some were clearly placed over top of one another. The high number of hearths found in such a small area suggests intensive use of the site. All, but one, of the features were sampled for flotation. The majority of the paleoethnobotanical and zooarchaeological materials found at Chocolate Bar were recovered in this manner. Twenty-seven 2L flotation samples were collected and of these fifteen were analyzed. The faunal and botanical remains found in the hearth features are of particular importance and will be discussed at greater length below.

Artifacts

A grand total of 112 artifacts were collected from Chocolate Bar, 19 of which are relevant to this report. These are: 11 ground slate knife fragments, six pieces of modified bone, and two pieces of modified wood. All 19 artifacts are components of a traditional fishing tool kit.

Slate knives (Figure 3) were typically used for butchering fish and preparing them for drying (Barnett 1955:62, Duff 1952:66, Stewart 1977:155 – 156). A piece of slate was generally shaped by grinding into a rectangular or semi-lunar shape and hafted onto a wooden handle (Figure 4). The handles of these implements rarely survive

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archaeologically and the remains of the blades are usually fragmented. However, the presence of slate knife fragments throughout the excavation suggests some degree of fish processing was taking place at Chocolate Bar.



Figure 3.3 Groundslate knife fragment found at Chocolate Bar rock shelter

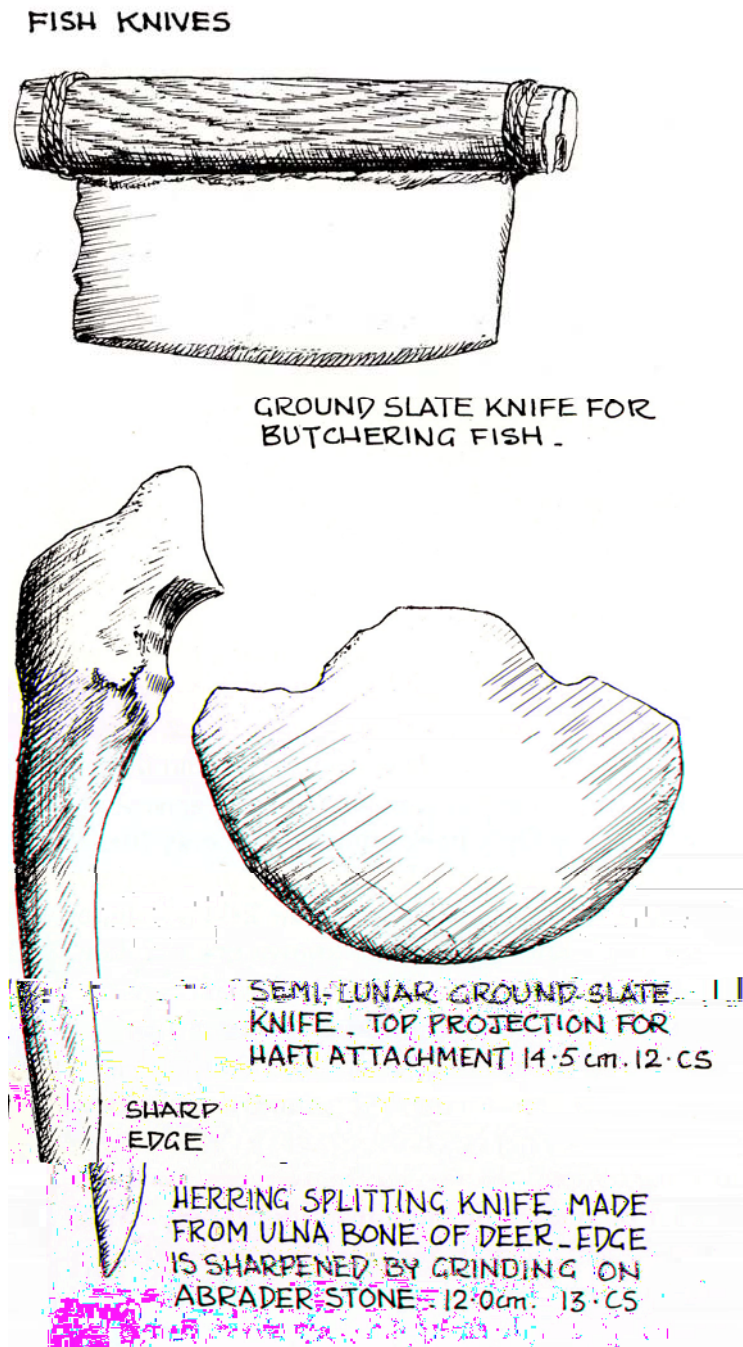


Figure 3.4. Illustrations of slate knives and an ulna knife (Stewart 1977: 156)

Two of the modified bone artifacts were also used for processing fish (Figures 4 and 5). The ulna from the lower foreleg of a deer was shaped into a knife by sharpening the edge of the bone and gri

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are described as herring knives (Stewart 1977:155), but the tool could have easily been employed in the processing of other fish.



Figure 3.5. Distal fragments of ulna knives found at Chocolate Bar rock shelter

The remaining six artifacts are associated with the procurement of fish. Bone and wood were shaped into various shapes to facilitate the capture of fish by hook, spear, or harpoon. The Chocolate Bar assemblage has examples that can be linked to all of these possibilities. Three of the artifacts, one of wood and two of bone, were ground into points or barbs (Figure 6). The striations from creating the tools are still visible under magnification on all three examples. These implements could have been components in hooks, spears, or harpoons.

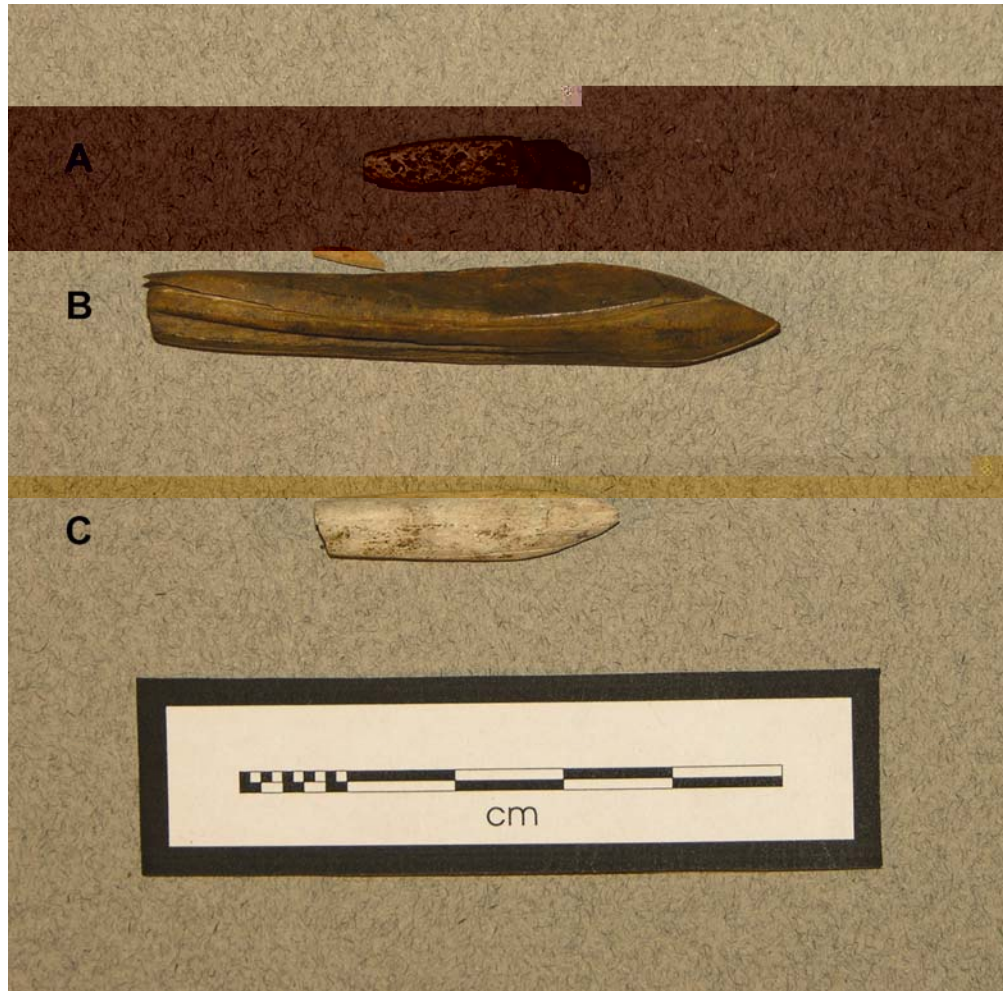


Figure 3.6. Wood and bone points found at Chocolate Bar rock shelter. A - bone, B - wood, C - bone

The three remaining artifacts, also one of wood and two of bone, were shaped into valves (Figure 7). Valves were components of salmon harpoons and spears (Stewart 1977:72). A bone or wood point and one end of a line were lashed between two valves. The valves were then covered in pitch for additional strength. When complete the valves acted as a socket that attached the point to the harpoon shaft (Figure 8). The system allowed the point that was attached to a line to dislodge from the shaft after penetrating a fish. Once the fish tired of running it was easily pulled in to shore or a boat. Significantly, for this report, Chocolate Bar was known as an excellent location for spearing chum because of the clear and slow moving water at the junction of Morris Creek and the Harrison River.

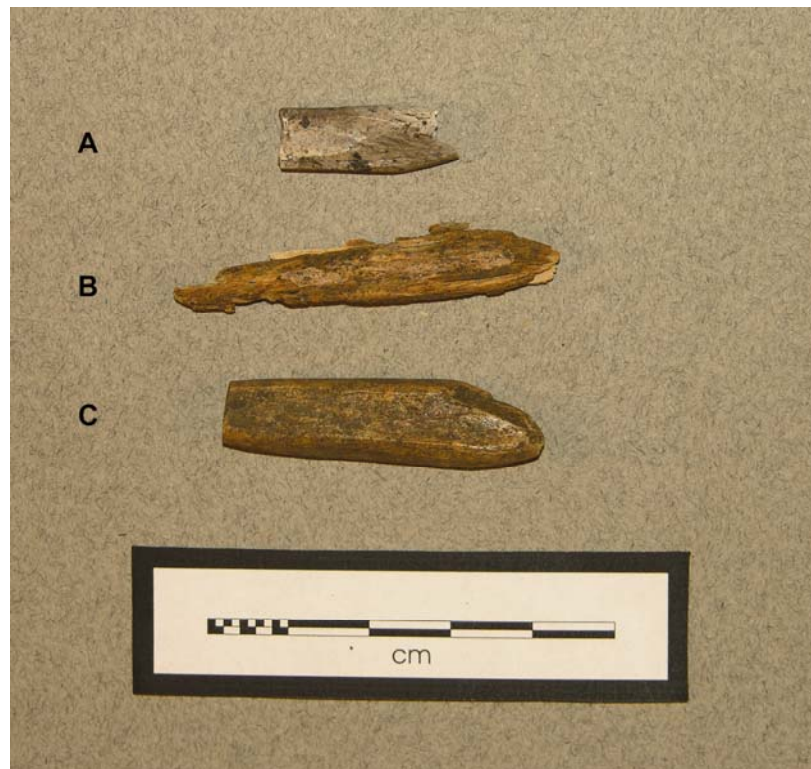


Figure 3.7. Wood and bone valves found at Chocolate Bar rock shelter. A – bone, B – wood, C - bone

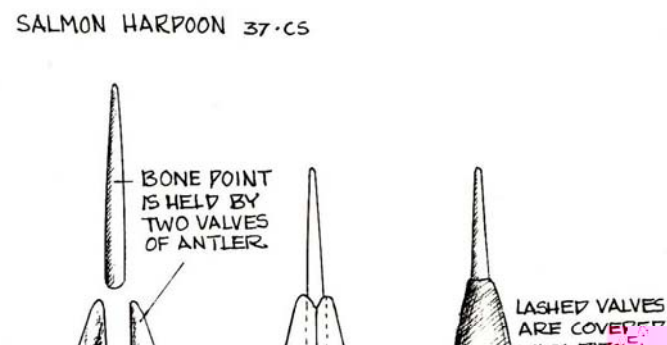


Figure 3.8. Illustration showing how valve system worked on a salmon harpoon (Stewart 1977:71)

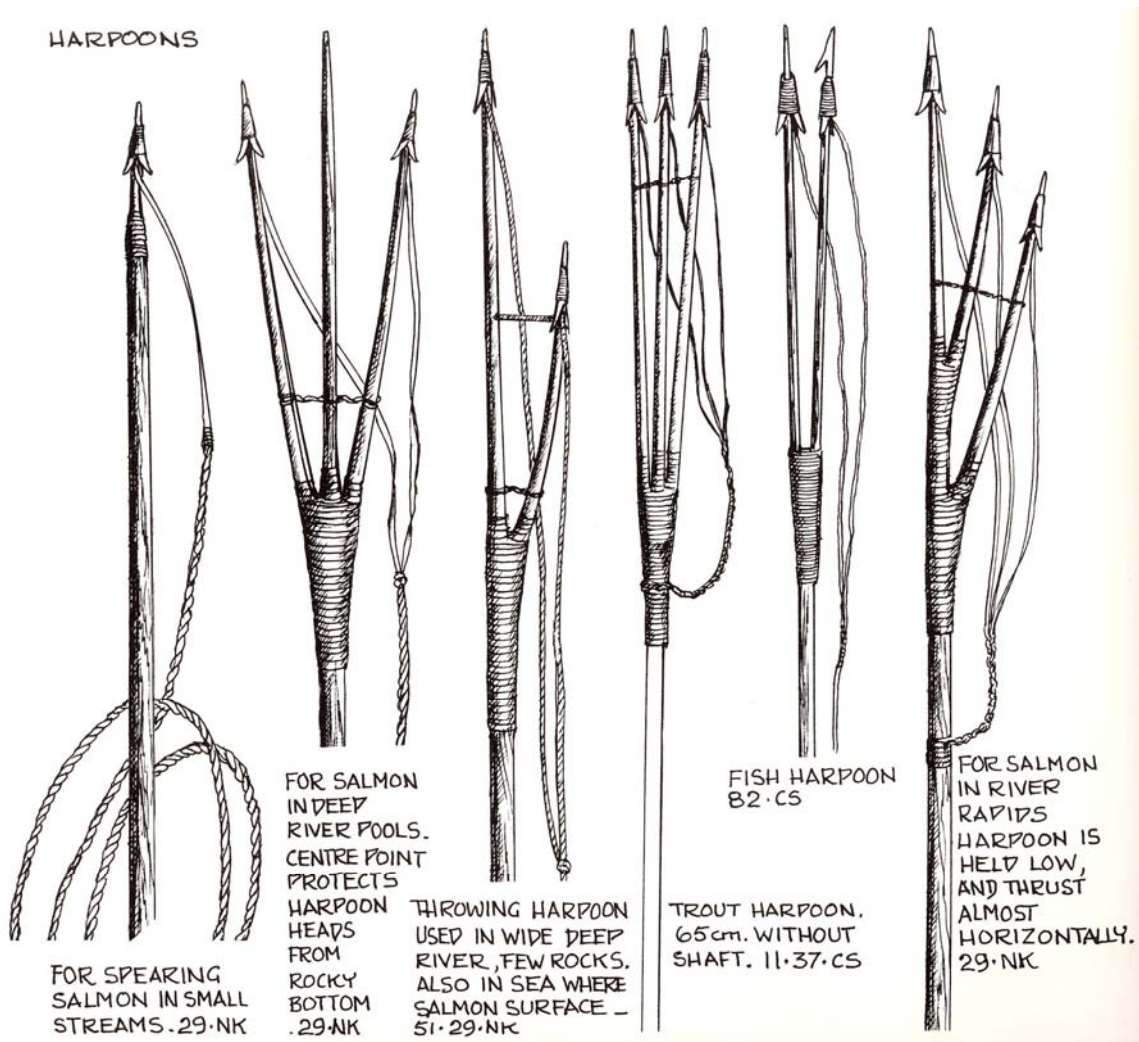


Figure 3.9. Illustrations of various harpoon styles used for salmon and trout fishing (Stewart 1977:72)

Paleoethnobotanical and Zooarchaeological Remains

Various plant types were represented in the form of burned seeds, needles and charcoal found in flotation samples collected from the hearth features. The botanical remains suggest a broad spectrum use of nearby plants with some indication of processing. However, the importance of these data, for the purposes of this report, is their function as indicators of seasonality; the time of year the site was most likely used. Seasonality is important because it can aid in determining which of the four possible

chum runs (Birkenhead, slough dogs, river dogs, or blackheads) may have been targeted at Chocolate Bar. This is best established using the seeds that were recovered (Table).

The various identified seeds indicate an early spring to late summer/early fall occupation with the majority falling flowering in the summer. This time table would suggest the focus was on the Birkenhead run (July – August) and the slough dogs run (late September).

Table 3.1. Paleoethnobotanical remains collected from hearth features. Only identifiable seeds included

Seeds	Season	Unit 1	Unit 2	Totals
<i>Amelanchier</i> sp. (serviceberry, juneberry)	early spring		3	3
<i>Archostaphylos</i> sp. (bearberries)	summer/fall	4	12	16
<i>Galium</i> sp. (cleavers, goose grass)	late summer/early fall	5	7	12
<i>Gaultheria shallon</i> (salal)	late summer	194	1176	1370
<i>Polygonum</i> sp. (knotweed)	summer	4	2	6
<i>Potentilla</i> sp. (silverweed)	summer		1	1
<i>Rubus</i> sp. blackberry, salmonberry)	summer	9	4	13
<i>Sambucus</i> sp. (elderberry)	summer	4	11	15

Much of the fauna recovered from the hearth features at Chocolate Bar was heavily fragmented and calcined. The nature of the assemblage is such that the majority of the fragments could only be identified to their class: *Osteichthyes* (Fish), *Aves* (Birds), and *Mammalia* (Mammals) (Table 2). However, some fragments allowed for the slightly more fine-grained designation of salmon, trout, sturgeon, herring, bear, weasel, small rodent and duck and still others could be identified to a particular species – northern pike minnow, bald eagle, Canada goose, black bear, elk, and black-tailed deer (Table 3).

Similar to the botanical remains, the assemblage is indicative of a broad spectrum use of the local fauna. Duff (1952:62-71) and Duffield and McHalsie (2001:62-63) identify a variety of fish, birds and mammals that were sought after in the Lower Fraser River Watershed and its tributaries including the Harrison. These included all five species of salmon, sturgeon, various trout, eulachon, black bear, grizzly bear, mountain-goat, deer, elk, groundhog, beaver, raccoon, wildcat, squirrel, ducks, geese, eagles, grouse, robins, blue jays, and crows. Given the size ranges of the various mammal and bird remains found at Chocolate Bar it is probable that many if not all of the above are represented but unidentifiable.

Fauna can often also be used as indicators of seasonality, particularly with animals that pursue a seasonal migration such as salmon, duck, and geese. With respect to the former, seasonal parameters become tighter if the particular species is identified. With only the more general descriptor of “salmon” to go by the harvesting time for the Fraser watershed and its tributaries spans the entire year. Even if one only considers the salmon that enter the Harrison, just three months of the year, February to April, are left unaccounted for. As for duck and geese, the possibilities are reduced significantly assuming that duck hunting was confined to November when the migration south began (Duff 1952:72, Duffield and McHalsie 2001:63). Similar to the duck and geese harvest, the majority of terrestrial based hunting was also undertaken in the fall when the animals were fatter in preparation for winter. Given this, faunal remains can lend some support to the spring through early fall use of the site as suggested by the botanical remains.

Table 3.2. Taxonomic categories used for faunal analysis

Taxonomic Category	Definition
Medium Fish	salmon size
Small Mammal	smaller than an average size dog (e.g., coyote, cocker spaniel)
Medium Mammal	dog-size to deer-size
Large Mammal	larger than a deer
Small Bird	smaller than <i>Bucephala Clangula</i> – the Common Goldeneye, a medium size sea duck
Medium Bird	as large as <i>Bucephala Clangula</i> but smaller

Large Bird	than a goose Larger than Bucephala Clangula
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Table 3.3. Zooarchaeological remains collected from hearths, level bags, and wall cleaning. Only remains identifiable at least to class are included.

Taxonomic Category	Unit 1 *(NISP)	Unit 2 (NISP)	Wall Cleaning (NISP)	Totals
<i>Onchorhynchus</i> sp. (Pacific Salmon)	165	73	7	245
<i>Salmonidae</i> (Trout)	11	4		15
<i>Acipenser</i> sp. (Sturgeon)	2	1		3
<i>Clupeidae</i> (Herring)	1	1		2
<i>Ptychocheilus oregonensis</i> (Northern Pike Minnow)	8	1		9
Medium Fish	105	102	2	209
Fish Totals	292	182	9	483
<i>Haliaeetus leucocephalus</i> (Bald Eagle)	2		2	4
<i>Branta canadensis</i> (Canada Goose)	3			3
<i>Anas</i> sp. (Duck)	9		1	10
Small Bird	29			29
Medium Bird	46	137	4	187
Large Bird	1	2		3
Bird Totals	90	139	7	236
<i>Ursus americanus</i> (Black Bear)		1		1
<i>Ursus</i> sp. (Bear)	3	1	1	5
<i>Cervus elaphus</i> (Elk/Wapiti)			1	1
<i>Odocoileus hemionus</i> (Black-Tailed Deer)	2			2
<i>Mustelidae</i> sp. (weasel)	1			1
<i>Rodentia</i> sp. (Small Rodent)		1		1
Small Mammal	23	1		24
Medium Mammal	203	287	4	494

Large Mammal	8	25		33
Mammal Totals	240	316	6	562

Note: *NISP – Number of Identified Specimens

Radiocarbon date

The single radiocarbon sample that was processed for this project was taken from the bottom of a hearth feature in unit 2 at a depth of 55 cm below datum. The sample produced an uncalibrated radiocarbon age of 210 ± 40 BP (Before Present), which calibrated (Cal) as three possible calendar year periods: AD 1640 – 1690 (Cal BP 310 – 260), AD 1730 – 1810 (Cal BP 220 – 140), and AD 1920 – 1950 (Cal BP 30 – 0).

Given other artifactual evidence the last period can be dismissed. For example, in the same unit, a fragment of a clay pipe bowl was found at 7 cm below datum. The style of the pipe dates to the late 18th – early 19th century. This leaves the earlier two time periods as the most likely. Due to the remains of excessive ceiling fall from the rock shelter in the form of very large boulders, we were unable to excavate to sterile. Therefore, the radiocarbon results must be considered provisional with respect to the antiquity of the site.

Summary and recommendations for future work

The archaeological data recovered from the Chocolate Bar rock shelter provide evidence for the long-term use of traditional fishing locations, and harvesting and processing techniques. Salmon remains and examples of some of the implements (e.g., slate knives, wood and bone points) that comprised the traditional fishing tool kit were found throughout both excavation units. However, using the archaeological data to specifically link the site to the chum fishery is problematic. The available evidence confirms the site's use as a salmon fishing procurement and processing location but the level of analysis carried out thus far cannot show a definitive correlation with chum fishing.

The level of preservation at the Chocolate Bar site is excellent relative to other dry sites in the Fraser Valley. Artifacts made from wood or bone, rarely survive in the archaeological record in this area unless found in waterlogged or shell midden contexts.

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For this reason, Chocolate Bar is a very important archaeological site and much can be learned from it regarding the lifeways of the ancestral Chehalis people.

However, for the purposes of the Chum Fishery Project in particular, more excavation is not necessary. An immediate and significant benefit would come from conducting ancient DNA (aDNA) analysis on a sample of the salmon bones from various depths to facilitate species identification through time. Sixty-nine non-calcined and non-fragmented vertebrae were selected from the faunal assemblage and measured as part of the faunal analysis. A sub-sample from these elements can be picked-out for aDNA analysis. The aDNA facility at Simon Fraser University is one of the best in the world and the possibility of conducting this analysis has already been discussed with the director, Dr. Dongya Yang. Should additional funds become available, aDNA analysis would be the most beneficial means for understanding the chum fishery in the Harrison watershed and the role the Chocolate Bar rock shelter played in it through time.

Appendix A: Percentage distribution of Fraser system salmon

Figure 4.2. Percentage Distribution of Chinook in Fraser System

Tributaries	Percent
Pitt River	.4
Chilliwack, etc.	.2
Harrison system	26.9
Minor tributaries	.1
Minor tributaries	.1
Thompson system	30.9
Seton, Bridge, etc.	1.0
Chilcotin, etc.	7.5
Quesnel River	5.6
Westroad River	3.6
Other minor	1.1
Nechako River	6.6
McGregor, Bowron,	5.2
Upper Fraser	10.8
Total	100.0

From M. Kew in Hayden 1992 (pg. 210)

Figure 4.3. Percentage Distribution of Chum in Fraser System

Tributaries	Percent
Tributaries below	40.2
Harrison River system	58.2
Above Harrison River	1.6
Total	100.0

From M. Kew in Hayden 1992 (pg. 212)

Figure 4.4. Percentage Distribution of Coho in the Fraser System

Tributaries	Percent
Tributaries below Harrison River	39.7
Harrison River	32.4
Minor tributaries	1.7
Minor tributaries	.7
Thompson system	22.8
Seton, Bridge, etc.	2.4
Quesnel River	.3
Total	100.0

Figure 4.5. Percentage Distribution of Pinks in Fraser System (odd years only)

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Tributaries	Percent
Mainstream and all tributaries below Hope	22.0
-early runs	8.0
-late runs	
Minor	1.0
Thompson system	20.0
-Nicola	30.0
-Inner	
Seton, Bridge,	19.0
Total	100.0

From M. Kew in Hayden 1992 (pg. 212)

Figure 4.6. Percentage Distribution of Sockeye in Fraser System for Main Tributaries

Tributaries	Percentage of Annual Total by Cycle Year			
	/01	/02	/03	/04
Pitt River	.5	5.0	5.5	4.5
Chilliwack	.5	3.0	5.5	2.0
Harrison	2.0	12.0	12.0	11.0
Thompson	57.4	27	4.0	2.0
Bridge, Seton	.3	2.5	2.0	3.0
Chilcotin	4.0	15.0	46.0	67.5
Quesnel	14.0	2.5	2.5	.5
Nechako	21.0	31.0	20.5	8.5
Bowron	.3	2.0	2.0	1.5
Totals	100.0	100.0	100.0	100.0

From M. Kew in Hayden 1992 (pg. 212)

Appendix B: Interview with Dana Charlie, October 24th 2009

Standing looking at Jimmy Charlie Slough:

Morgan: Let's start with the timing of the chum run.

Dana: We first notice chum coming up the Harrison River in late July or August. They stay in the main channel and during the first 2 or 3 weeks they go all the way up to Skookumchuck. They'll just bypass us here. We discovered this a few years back because we tagged a whole bunch of them and they never returned. But we got in contact with a couple of the Chiefs and one of the band members from up that way and had them look for our tags; they recovered them. So that's the beginning of the chum run in the system, but later on, August, September and especially October, you'll really notice the concentration of chum in this system. And that'll be our second chum run that come up the Harrison River, this run inhabits all these sloughs here.

Morgan: So is that first run considered the Birkenhead run?

Dana: Well, the Birkenhead is sockeye, but they go to the same place so I'd class them the same.

Morgan: Okay, does this run also go up to the rivers on Harrison Lake?

Dana: Silver River, Spring Creek, Bear Creek, Mystery Creek, that's at Twenty Mile. We recover a lot of our tags from up there. We have another fisheries crew that just started 4 or 5 years ago; we call them the stream walkers. We send them into area that we can't access in a day. We send them 50 miles up into the mountain and these streams can be anywhere from 1-12 km long. And all that data they collect and process for us is very important because it tells us where our chum is migrating to. All the earlier ones; the chum they see up there are the same ones we see down here 2 or 3 weeks earlier. Once they get in the lake they'll mill around, especially the sockeye. The majority of these sockeye here, they've already been to the lake and then dropped back out because they are ready to spawn.

Morgan: Oh okay, so some of the fish do go up and then come back?

Dana: Yeah, and we've got proof of that. Some of these chum that we tagged right around here a couple years back ended up going back to Port Coquitlam. We got a call

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from people at the hatchery there. That means they dropped out of this system, back into the Fraser and then up another system [the Pitt River]. We had some biologists out here, like Ken Thomas, and he had no idea either. I think it may have been partly related to stress though from being caught, manhandled and tagged.

Dana: The majority of fish we have around us right now are the second run of chum. They are a bigger, kind of healthier fish, because they have to endure all of this stuff here [talking about the boats and fishing?]. The first run, the smaller run of chum are the ones that go right up. We notice the bigger fish that stay in the Harrison River are a different colour, they are not as bright and they show more “paw” marks on their sides and bodies. You’ll notice the difference; they’re just not as shiny. The first chum we get in here you’ll just barely see the “paw” marks on them, their scales are so silver. And they are an orange or pink flesh. They pass through in July, sometimes just in a day, on a steady travel. You could watch them with the sockeye. The sockeye and chum tend to travel together in larger groups, for protection I guess. We have significant seal problems here. But these chum here [the second run] they’re a white flesh, much different from the orange and pink flesh from the first run. The orange seems to be a healthier fish. I’d say the orange has more omega proteins than these fish. There is nothing wrong with these salmon [the second run], they are still a good eating salmon. Our elders always used to harvest them, especially at the mouth of the sloughs. I used to see my grandpa and my uncle just place sticks and logs to channel the fish and then just stand here with poles and just yank them out. It’s a good way to select your fish. You’re not harming anything else, you’re only taking what you want. There’s nothing wrong with that.

Morgan: Could you explain that system a little bit more?

Dana: Yeah, they used to make their own little fences above the beaver dam, a little circle or half moon and they used to put little gates on the top. And once they got that all built they make a two foot gap out of the beaver dam, just enough for the fish to go through. They would sit and watch all the fish go into their trap, and on the other side is their fence so they couldn’t get out. They used to take the biggest and the best fish that way. And they never, ever, used to take females. That was one of the cardinal rules; especially for a slough system because there’s not much in them. They wanted to see fish coming back year after year after year. So they would just target the males in here. The other reason is that males have more meat. You lose 4-5 pounds from a 10 pound salmon to bones and the reproductive system. On a 10 pound male, you only lose about 1 pound of that. There’s not much cavity inside the male like there is in the female. I won’t clean a female for smoking, there’s just not enough flesh there. Kind of a waste of time, for me it is. But we have such an abundance of salmon out here that you can be selective.

Dana: I still do the torch-lighting myself; I don’t go out and take 300, 400, 500 fish in a night. In a 6 hour night I’ll be lucky to come in with 25-30 fish. But they are selected fish. They are not just any old, ugly fish like you would get with a net. You throw a net out and you catch 100 fish in an hour, but how many good fish are in that net? That’s the thing. You’ll get a lot of fish that are near their spawn so they’ll just stress out and die without spawning. As for torch-lighting you have the option of picking your fish. There’s

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no harm there because you're not killing everything in sight like what a net does. I don't do much net fishing myself. I only went out twice this year because the numbers were so low. And I'm trying to protect that, not go against it. [1:10]I've only taken 7 fish in total this year because I don't like what I'm seeing. I don't like seeing the decline in the salmon. I was taught to harvest only what I can eat so that's what I'm teaching my son. I'd like to see this teaching continue and you have to start somewhere.

Morgan: Right. Is that you're professional training or your traditional training, or both?

Dana: Both.

Morgan: Yeah, you were telling me before that some of the elders would specifically instruct you not to take females.

Dana: Yep. A lot of the elders were that way because they were thinking of the future fish, the future run. You don't want to deplete your run by taking out all the females. Like I said for every female sockeye you catch, you're taking out from 5,000 to 7,000 eggs. As for chum it could be anywhere from 8,000 to 10,000 eggs. And Chinook is the same way. We've been doing tests that show out of one batch of eggs, maybe only one or two will make it back to spawn. We put pit-tags in the noses of 1 million fry and we only got two back within the four year span. That was a big thing for us to learn. It goes to show how much those fry get taken by the trout and other salmon in the fresh water and the saltwater. It gets pretty discouraging sometimes when you're doing all this hard work just to see nothing coming back in return.

Morgan: I guess it shows how many eggs you really need just to get a proper return.

Dana: And that was the main reason the elders said "Don't take the females", "protect the salmon".

Morgan: Would the elders do anything else to make the sloughs suitable habitats for salmon?

Dana: Well, a long time ago we used to have all these trappers here so we didn't have much trouble with the beavers damming up these sloughs. The sloughs used to be pure gravel all the way from the mouth to the top. You never used to see much silt in them at all because of all the elder trappers here. I used to trap myself; I trapped in these sloughs for about 15 or 16 years with my grandpa and two of my grand uncles. Once they quit I carried it on for another seven years, but it just got too hard on my body. Also Greenpeace stepped in and started yanking my permits. Also, it just got difficult to sell the furs. After that, we started getting more beavers in the sloughs. They started building more dams and with all that the silt started to accumulate. You see the water moving at the front of the slough here? The whole thing used to be like this. It used to be a clean system. If we were standing here 10 years ago, we'd be looking at 50-100 fish at the mouth of this slough. Today I only see one fish swimming around here. That's it. I don't see anything swimming up above of either [further up the slough]. You wouldn't be able

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to walk across this slough 10 years ago without getting bumped by salmon. My brother's getting very discouraged about this. He's getting up there in his years with fisheries; he's seen all these changes. I think it was '72 when they started the enhancement projects. With that came all these experiments. At the top of every slough they had what they called incubation chambers. They were big boxes 12 feet by 12 feet by about 4 feet in depth. They put eggs and milk in there to hatch, just to see if they would hatch and come back on their own. It never worked. If one egg went bad in that box it would spread to the others just like a mold. They would be lucky to have 10,000 leave alive. Each of the sloughs has their own problem. None of these systems are the same. Ed Leon's is the longest system out of all these sloughs. That one is above us. This one [Jimmy Charlie's] is the second longest one and then it goes all the way down to Smokehouse slough and then Billy Harris' then John Mack and then Log Dump. But the thing is, John Mack's and Log Dump are the two smallest systems [sloughs] we have here in the Harrison River and they are providing the most salmon.

Morgan: Why is that do you think?

Dana: They are so open beside the roads that the beavers don't want to build in them. So they are constantly flowing and the silt is not building up in them. Also they are shallower sloughs. As for this slough, you are looking at about a foot and half of water, but under that there is about another two feet of silt. If you step in there it is probably about hip high. And that's just mainly due to the beavers. The beavers are causing the biggest problem here in these systems but we don't have any more trappers here.

Morgan: So for a while though, your grandfather would use these beaver dams to harvest fish.

Dana: Yeah, that was another method of selecting fish. We used to have only three or four families in this reserve that used to fish out on the Fraser with nets. And that was only during March, April, May and June. Other than that, they used to do all their harvest here. I should have brought you down to James' house, he's smoking about 30 fish right now. Those were harvested at Weaver Spawning channel manually. It's still selective, but they are not the best of fish, not like what you get out here. The quality between Weaver and here are different. The quality between the Harrison main channel salmon and the slough channel salmon are also different. The fish in the sloughs have silt and dirt go through their gills. You and taste and feel the difference.

Morgan: It didn't used to be like this before though?

Dana: No, it used to be all clean. This grass that we're standing on wasn't even here until about 15 or 20 years ago. It's difficult to get programs to clean these systems though. They have to be cleaned out. If our kids grandchildren want to see salmon, it has to start now. Even in my time, I've watched a drastic change to these slough systems. We used to get at least 10,000 – 15,000 chum in one slough system when I first started and now we're lucky to get 2,000 -3,000 through the full season.

Morgan: And you know this through dead-pitching and tagging right?

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Dana: Yup. One of the reasons the dead-pitch system was set up here was to get an estimate of the salmon in the system. But if you think about it, you're only counting maybe 20% of the salmon that are out here. You're not counting everything because there are a lot of salmon in the middle of the river that die and they drift out and you don't get to see. We're only counting the ones that die and get hung up basically. This is a long system, it takes a while to dead-pitch. I'm feeling it today.

Morgan: Ha ha, yeah, after walking 32 miles the other day?

Dana: Yeah, it's a lot of distance to put on your feet. It takes its toll on you.

Dana: The blackheads are one of our last runs on the Harrison River. They come in January. And we're usually shutting down at that time because these chum now are generally dying off. The second run dies off around the end of December so we cut back on our workers at that time. But these last two or three years we've been finding enough money to keep everybody going for an extra two to three weeks. And that was a real benefit to us because then we started to run into the blackheads. We really started to notice them.

Dana: This system here [Jimmy Charlie's], Ed Leon's and Bill's slough are where our elders used to harvest most of the chum for smoking. They used to send their kids out here. My aunties and my uncles used to come out here and select fish for their parents and grandparents. That's how I got into it; by just coming out and helping. I think I was 8 years old when I first started harvesting salmon in the slough for my grandpa. He used to just give us sticks to hit the fish that came by.

Morgan: So would these be trapped fish or those that just swam into the slough.

Dana: Well, we used to use the gap method too [in the beaver dam] and just let the fish come to us. No walking involved, no running around chasing fish. Our elders were fairly smart people I guess because they didn't allow us to run all over in the spawning bed and crush all those eggs. That was one of their reasons for using the weirs and selective fishing, so they wouldn't be running around on the spawning beds. Why kill all these fish eggs in the gravel. They won't be any good to you then.

Morgan: So why did the elders come to these particular sloughs, did they have houses around here?

Dana: All the elders used to build their smoke houses at the beginning of these systems. It was for convenience. That way you didn't have to bring your fish way back to your home on the reserve, process them and smoke them and then bring the guts back to the water. They would do it all right here by the water. You caught your fish here, you cleaned your fish here and their smoke house was maybe 100 yards up off the waters edge. And then they'd use to just process their fish right there.

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Morgan: And they would also live here right?

Dana: Yup, and you can see that here. They built dug-outs or keekweelie houses right on the shore not even 25 feet from the slough. And there's usually about 4 to 5 together in a spot because they used to do this as a family. This would have been a family thing. It made it so much simpler when everybody would work together. They used to have their people out there, the ones that would do the actual harvesting of the fish and then they would bring them in here [to the houses] and the women and the younger children would do the cleaning and cutting, washing the fish, putting them in their baskets or bent boxes, or whatever held the salmon while they cured it. And then they would move it to their smokehouses. Once they had enough to get them through the winter, they would take their fish back inland to their houses to get away from the harsh winters. That's why our houses are further in now. Our elders moved off the water into the timber. Most of the hunting and fishing would occur from August/September to December. They would be doing their fish harvest and their deer, ducks, geese, grouse. Believe it or not we used to have pheasant here before. Just last year I saw my first two pheasant again here on the reserve.

Dana: As for these chum here, I don't like what I've been seeing here because their numbers are dropping so much. I think it was five years ago they started that chum surplus removal at Island 22 on the Fraser. This year they have 13 crews and they're taking a total of 300,000 chum off the Fraser River. I'd say 20-25% of those are Harrison River fish. And another 10-15% of those that they are taking are Chehalis River fish. So it's a real big hit to the chum population. They say it's not affecting it, but as a fishery we are noticing that difference. We are out here year after year after year, from the beginning of the run to the end of the run. And we're noticing a difference in the numbers and the areas that used to get really big numbers are getting almost nothing. Like this slough here. The numbers in this slough system dropped big, probably 80% percent in the last 5 years. And a lot of that is because of the chum surplus they are doing on Island 22. That made a big difference. We do set nets by the Bridge on the Harrison River and we used to pull in between 300 – 1,000 chum in a single set. Now, we're lucky if we get 25 chum. Same as the sockeye.

Dana: We have to go back to the old ways of fishing. Don't put gates up in the creeks and sloughs, at the beginning of the lake systems. Let them get back on track, like they used to be. Our ancestors used to live off of these systems and they never did anything like this to them before. They never tried to control the fish. They are some of the smartest people I think, the way they harvested and selected their fish, their animals, their way of living. Our people used to move around a lot.

Dana: We used to trade with the Cowichan eh? They didn't have access to this abundance of salmon and we didn't have access to seafood like clams, crabs, lobster and halibut like they do. It was a pretty good trade off, but we don't do that any more. The bands just don't communicate like they used to.

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Dana: (52:04) You can see the characteristics in the salmon themselves. These bigger fish, they got a hump on the back. As for the smaller fish, the first run of chum they are not as big from back to belly. Their girth is not as big as the second run. The second run of Chum gets bigger, they get longer and heavier, and they are a white flesh.

Morgan: Are there particular areas that the second run goes to?

Dana: All these sloughs systems on the Harrison River get the majority of the second

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spring, steelhead, brook trout, dolly varden, rainbow trout, speckled trout and rocky mountain white fish in that one system.

Morgan: So you saw the rock trap that your grandfather made right?

Dana: Yup. The river was about 40-50 feet wide and the weirs came right out from the bank about 25 feet into the river. He had them staggered upstream and at the very top he had one in a half moon. As the fish went through, they'd kind of select and choose what they wanted and the guys standing at the top would have old fashioned bone spear poles. They would say "one is coming through your side, take that one". So that is how they used to select their fish and why they used to make those rock weirs.

Morgan: To narrow the channel?

Dana: Yeah, to control it.

Morgan: Then this is a different trap from the cone basket one you were describing before?

Dana: Yeah, totally different. They used spears with this one. An old style two prong bone spear.

Morgan: Hafted onto?

Dana: Mostly crab apple or Fir. The Fir trees are really light weight and straight. As for crab apple, they are not as straight and they are not an even thickness like a Fir. A Fir you can get 20 to 30 feet long and only change diameter by about 1 inch. As for the crab apple, they are probably 6 inches in diameter at the end and you are lucky if you get them up to 6 feet. Crab apple get really heavy when they are wet. You could fish with a Fir shaft all day long and it won't soak up water. Crab apple shafts take a week for the water to come out of them. But they used the non-fruit bearing branches of crab apple trees for prongs, fishing needles, or sewing needles. That's what I use for a prong when I make old style spears. Besides the wood, the old style would have sinew from a deer, the back view on the deer, like the spinal cord. You can just strip it out in strips, you can usually get 10-15 strips from one spinal cord of a deer. It's like a dental floss kind of material. They used to use it for thread, that was it's main purpose. For sewing boots, clothes, gloves, whatever. My grandfather taught me when I was about 12 years old. He taught me to hunt the deer, clean it, hang it, buck it, process your meat from it and then do a hide drum and use the sinew. Nothing went to waste. They used to crack all the bones and take the marrow out. Our elders used to eat that before. They also used to use it to cook with instead of lard or oil. A lot of the people used that for making paint too for when you do your dancing.

Dana: What else did you want to know about the chum?

Morgan: [1:15:00] Tell me a little bit about torch lighting

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Dana: That's a fun thing to talk about. [15 minute digression]

Dana: My grandfather told me when I was young that you cannot own anything that moves. He goes "you don't own that water, you don't own that fish, you just own the land around it". That's how they used to control it before. But if anyone came in and fished in their area, they let them know...real quickly. Everybody used to have their own land, not like it is now. All the families are just scattered all across the reserve. When I was growing up the reserve was divided in three sections. Charlie's and Leon's lived at this end. Point's, Joes' and Felix' lived in the middle part, and then down at the end, we had our Chapman's, Williams and whatnot. That's how the families used to stick together back then. That's why they name the Sloughs the way that they do. Clarence Morgan and his family used to use down at the Flats there. It never used to flood out, because this system never used to be this big. Over the years erosion was caused so much of this beach to be taken down river. Waves from power boats just slap the shore and chunk it out.

Dana: My grandpa's smokehouse used to be right here. Ed Leon's was at the top of that slough. Clarence Morgan's was at the Flats. The Williams and Phillips, they used to be down there. Billy Harris, too. The families didn't used to be as big as they are now, they would consist of 15 -20 people. Not like the way it is now.

Morgan: So did people live in their smoke houses?

Dana: Not in the smokehouse, in the keekweelie huts.

Morgan: When did they live in keekweelie huts?

Dana: Well, basically all year round. A few of the Keekweelie huts that we've seen had willow branches on top and moss over that. We went inside one and sat in it during a really hard rain and nothing got through.

Morgan: Where was that?

Dana: Just down here at what they call the park. There used to be a half one there before. We used to sit in there when we were kids. When they cleared there in '76, '77 they pulled the roof off and put it on a slash pile. That was a summer program. They just clear-cut everything.

Morgan: [1:34:00] You were going to tell me about torch lighting

Dana: When we first started torch lighting, our grandparents all had canoes. They all had dugout canoes. My grandfather's was 33 ft. long, 33 inches wide and it wasn't that deep, maybe 22, 23 inches deep. It was a fairly shallow canoe. We used to put three people in the canoe at a time, one at the back, one at the front and one in the middle. We had our light tethered to the front because when we started torch lighting they had kerosene lamps. As for our elders, they used to use birch bark and oolichan grease. They used to

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just wrap it around another stick, preferably crab apple because it was one of the hardest, slowest burning wood. They used to just wrap their birch bark on the top and then light it. One strip of birch bark would burn for a good half hour at a time. As soon as the light started to burn down they'd just wrap some more around. They used to pole from here all the way up to Morris there. They didn't fish going up, they only fished going downstream. That way all of them could fish at the same time. The current would take them downstream, the guy at the back was just responsible for lightly pushing to keep a steady movement. They used to call this the "inside" coming down, they all understood if someone said "big spring on the inside". They'd just switch their poles to this side and get ready for the fish. If it got past the first guy, the next person had a shot at it. They used to call the far side, the "outside". The cardinal rule was the front guy did most of the fishing, they'd just switch when he got tired. If you hit them wrong, they just go all over, and you're trying to steady this 80, 90 lb fish with a pole. That's how lights get broken, that how people get knocked off...it's happened so many times. We've all experienced it. I know I did. I've been knocked off a couple times, I did it to my brother once. The closer you stayed into the beach edge was for coho, chum and sockeye. And when we wanted to harvest our Chinook, we'd move further out into the deeper water because that's where Chinook hang out. The coho, chum and sockeye hang out in two to three feet of water. As for the Chinook, they like five to six feet of water, so if we wanted one, we had to go out into the swift, deeper part of the river. It's a little more scary, but you had to do it right. If you didn't want your grandparents mad at you.

Morgan: So your grandparents would request certain types?

Dana: Yeah, they ask for so much Chinook, so much chum... or Sockeye if they wanted them. We rarely, rarely torch lighted sockeye.

Morgan: Why is that?

Dana: Because they harvested them earlier in the season before they came into the system. They harvest them down at Queens Islands down by Deroche. There were a series of 5 or 6 Islands with narrow channels and they used to do the fence weir harvest there too. It was a small window, because once the rains started it would wash their traps right out. As for here, you got 3 or 4 months. We get the sockeye and the pink before anything else in this system. And then we get the chum and then the Chinook, and the scientists have found that there are three runs of Chinook. We also have three different runs of steelhead, a summer run, a fall run and a winter run. The sizes are different for all of them. Same is the case for Chinook.

Morgan: You were telling me before that you made different spears for different fish.

Dana: Yeah, it all depends on the salmon you are targeting. Take this sockeye here [dead on the beach]. It's kind of a narrow back so you're prongs won't be that wide. You got your two prongs coming down on either side and your main center prong. These outside prongs go around and lock onto the belly so the fish can't pull back off. The middle bone prong breaks the back bone and paralyzes the salmon so it can't kick as much or damage

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your spear. It was a fixed spear so you really had to take care of your gear. If the fish twisted and turned it could weaken or break your spear. That's why you try to paralyze it.

Morgan: So that's your technique when you're torch lighting?

Dana: When you're torch lighting, you try to target this area right here [near to the head], because when you are smoking your fish you cut that part off anyway. You don't want to spear any lower on the back or side. The fish is too thin and your spear could go right through. Also, the belly cavity is really soft so the spear could just rip right out. So you have to target this area because it's all solid bone. If your spear goes through there, you're leading that fish by the head and not by the body. Any further back and you have very little control over the fish and you'll hurt somebody or yourself.

Morgan: [1:57:18] I always thought that people would have lived in their smokehouses.

Dana: Some of them did, but not a lot. Your first two days have to be really heavy in smoke, cause that is what is curing you skin and your meat on the outside. And after that first two days you burn a cleaner fire which is more heat than smoke. That's what get the rest of the fish cured. The whole process takes four to five days. It's a long process and takes its toll. You have to watch your fires for three or four nights, every three or four hours you have to go and check your fire. It just depends on how you burn your wood. Some people like small fires, some people like big fires. It just depends on the size of your smokehouse. My smokehouse is 16 x16 and 18 high in the front and 16 feet high at the back.

Morgan: Does the run of Chum effect how you process the fish?

Dana: The first few weeks of the Chum run the people prefer to can because they are orange. The ones that are here right now, people prefer to smoke because they are a white flesh. They don't seem to have as much flavour as the orange or red meat. After you smoke your salmon, they mostly taste the same. You could notice the difference between a red fish and a white fish. The fat content is totally different. The white flesh ones have a lower fat content with less protein than the red fish. It makes a big difference so the elders prefer to can the red ones [this probably implies that they would have had them fresh in the past].

Morgan: And you said you didn't think the blackheads were used as much?

Dana: Well once they had the salmon preserved, they would go up into the timber for hunting deer etc. They started that harvest because they needed clothing to get through the winter. They used to use that for their clothing, boots, dip nets, everything.

Appendix C: Interview with Wayne Charlie, October 6th 2009

Weaver Creek Spawning Channels

M: Where were Chum harvested in the Harrison River?

W: From my knowledge, fish were always harvested in the Harrison and the Chehalis. They were mainly caught by spearing at night, what you call torch-lighting. In the past, they used to gather pitch from trees for fire in a canoe and use spears made of horns. That's the traditional way. Leather or tendons from deer would be used to tie the horns on (goat horns and deer horns). And in the present, in the last 15-20 years we use metal--a metal prong on the end of a long pole. We started using that since metal has been around. We haven't used spearing for the last 15 years but we are trying to bring it back because it saves the species. You have your choice of fish this way. It's a more selective fishery. It was used up until 1985.

The purpose was to select the type of fish that you wanted, some people wanted sockeye, some wanted, coho or chum and others wanted spring. At some point during the run, most of these species overlapped with each other so that there were 5 different species in the river at once. Also there'd be fish that were half spawned and white socks so you'd want to make sure you got the best. So the best method to select the fish you wanted was to drift down the river in a canoe and spear them. This way you could see a particular species or individual that you wanted from 20 feet away and spear it. Some of the experienced guys could do this.

M: Why would people select a particular species in, say October?

W: Well, many of the fish come up at relatively the same time, so they overlap in greater and lesser numbers depending on the run. But the earliest Sockeye for example are too rich to smoke when they first come up. They don't dry right up so they don't last through the winter. This was a real concern before modern methods of preservation. In the old days, after fish has been dried for a while it can sometimes get really tough. If this happened, people would just dip it in water to soften it up again.

M: Which areas in particular were the salmon harvested?

W: In my knowledge, they were taken from everywhere, but the main source for spearing was on the main channel of the Harrison River. The traditional spearing started down at Wiloughby's Point and Wilson Point. And then up at Morris near to the Chocolate Bar--the outlet of Morris Slough. They used to have weirs in there. They had two, with which they would block off the creek to a certain point, and then they had a side channel that was fenced off. And then fish swam in there they would block them off in the side channel. This would act as a pen where people could keep them fresh. They would leave them in there for a week or two. This would allow them to keep them fresh during even the winter time.

M: This also is a very selective fishery.

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W: Yes, and when these weirs are not in use, there would be a gate in the weir that they could open to let the other fish continue on to spawn. But they would still have their live fish trapped off in a pen. They could continue to fill it up by just closing the gate for a while until more fish get trapped. And then they would open it again. Someone would watch these traps regularly, but it would not be necessary to be there all the time, they could leave for a while and when they came back they could open or close the traps- whatever they wanted.

M: I remember Stan Point told me that he saw two pithouses right at the confluence of Morris Creek and the Harrison River.

W: The management of these weirs depended on the quantity of fish in the river. Fish would run all year round, but the peak season here lasted from mid-July to end of February. From March to June, there were many less salmon. During the times when less salmon ran people would eat smolts and resident fish such as: suckers and chubs and steelhead and sturgeon.

M: To go back to the fish weir across Morris Creek; would the gate also allow canoes to go back and forth?

W: No, no, the canoes were small and light and could easily have been picked up and moved around the weir. The Chehalis had control of all the rivers, like Morris, the Chehalis and the whole Harrison River. The Chehalis really had, to my knowledge enough power and enough natives to police the area and do weir enhancement for the last few hundred or thousand years. And we would control the other natives that used to fish in our territory if they didn't have enough in their own territory. It was all controlled the Chehalis, the Harrison and even Weaver.

M: Yeah, it's like the famous Chehalis story about putting a weir across the Chehalis River to control the salmon even from the upper Chehalis group.

W: Yeah, there used to be upper Chehalis of Chehalis Lake, and what you call middle creek or Skellipel, which means "half way" on Chehalis Lake which is 6 miles long. At the upper end, or north end, there is a river that comes in called Eagle River. And a lot of fish used to go spawn up there. Mainly Coho though. And there's Spring salmon. There was a few Chum that used to pass by at the bottom end. And they had the weir, I'm not sure exactly where it was, but on the bottom end somewhere, on what they called the Chehalis flats. And they had these weirs, the same that they had at Morris that used to block the fish for selective fishing. And they had this thing with the upper natives. If they blocked it off, the upper natives would send a fast runner down to open the gate and let the fish out. And this would cause a squabble. That's before Europeans came. And then, after a while, when the Europeans came and the Chehalis got smallpox and diseases like that that nearly wiped them out, the two tribes came together. And it's all in one, that's why they're called the upper Chehalis and lower Chehalis. And then there's Scowlitz,

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where the Harrison flows into the Fraser River, that's a different tribe. But all three thrived on the fish that came into the Harrison River.

M: You were telling me yesterday that you saw some of the remnant poles from fish weir across Morris Creek.

W: When I first started working here [at Weaver Creek spawning channels] in 1973 I could still see cedar poles sticking up out of the ground that were part of that weir. They were kind of on an angle and stuck up out of the ground. Now I think they are covered up with sand. But it was exposed. They used to drive these poles into sand, because most of the ground was sand. And they used rocks to anchor the poles where they couldn't drive the poles deep enough into the sand. Morris Creek was mainly sand though and the poles would be driven 2-3 feet deep.

M: It's probably still there

W: Yeah, you could probably find it if you dug around there. It's right by Chocolate Bar when you first come into Morris Creek. And I think there used to be pithouses opposite to Chocolate Bar on the flats close to what we call Little Mountain. At out from there, there are probably pithouses out on Ed's Slough [there are 3 on Ed's Slough]. And all the sloughs had pithouses from what I remember and smokehouses close to the edge, close to the water. And even across the river at the cemetery there used to be the pithouses. Everybody used to live along the river's edge. They were right there on sight all the time, so it was pretty tough for a different native to come up and fish in the area because it was all Chehalis right through the whole river system.

M: It's interesting you say that. I've noticed that pattern you just described from the distribution of housepits and plank houses. Housepits on the sloughs and plank houses or smokehouses right on the main channel of the Harrison River. Do you think that there is some significance to the placement of housepits right on the slough channels?

W: Well, I think that it was productive for fishing Chum. But also, there were family clans and certain people had certain places to fish and this has been passed on down even to modern times. Like everybody had respect for each family clan even though people were all related to each other in a way and lapped over into each others family, they still had this respect for family clan areas where they fished. And I think this was the main significance of sloughs. But we used to all congregate together and trade and trade knowledge. And they all had respect for one another. But they all lived in the same area and they were the same family clan, all Chehalis, but there were family groups that would get together in these longhouses and that was the thing that they used to do. They'd preserve fish for ceremonies and then they would get together. I don't know exactly how often, but it was quite often, like one big family I guess. But they were on their own for a certain amount of time.

M: I'm very interested in this idea. In your mind then, what does a Clan consist of? What does it look like?

W: Like a great-grandfather and a grandmother if they are alive and you know, grandma and grandpa and of course the kids. These would be grown brothers and sisters and nieces and nephews down the line. But of course this would have been a while ago when there were a few hundred or even a few thousand natives. And they used to marry off into other areas so there were ties into other groups of natives. That is why our territory extends up to 20 mile bay and Silver River. There was these other camps of natives, but they were all considered Chehalis. But they lived 20 miles up the lake and through occasional contact, when they would get together in traditional smokehouses they would have great big potlatches together and then sometimes people would marry off into other groups. From my knowledge, they used to marry off as far as 3rd cousins or 4th cousins. And upper class people like a chief, would marry off their son or daughter. But it was all done by trading with fish too at potlatches. You would bring a bunch of gifts and they would bring gifts and they would trade off and have a big ceremony. This could be a memorial for someone that passed away, or a marriage or just a get-together for all the community groups.

W: That's what I know from what was passed on to me from my grand-uncle, uncle Ed and my grandfather Jimmy Charlie and a few of the elders like Jim Leon, and John Leon. They all lived to a ripe old age of about 90 years old, except for my uncle Ed. He's the person that you'd really want to talk to, but he passed away maybe 20 years ago. He had a lot of knowledge and he preserved a lot of traditions. He's the one that kept alive the songs and stories by recording them at Stó:lō Nation. He was well respected. But all my elders did that, they kept their knowledge alive through when the Europeans came and passed it down. Everything you see today that we still have is related to traditional practices and ceremonies.

M: We talked about the importance of clans or household groups that would control sloughs. I want to come back to this and follow up on the idea of different households or clans being associated with particular sloughs. Would people do things to the sloughs to enhance their productivity?

W: Sometimes it was easier to catch fish in sloughs because there have always been beaver dams that block off the sloughs. And they used to just open up a little bit of the dam and they would have a natural weir. So they would use the beavers to their advantage. The fish would just skip in and become blocked off so they could pick them off really easy with a scoop or a spear. They might even have had a cage, but they probably used nets or baskets in there that they could just pull out when they needed them. This was another way of selecting fish. They could take their selection of Chum or whatever, male or female, whatever they wanted.

W: The natives were there to allow the fish into the sloughs to spawn. My grandfather and my grand-uncle in the past, in the 20's and 30's when they were young men they would break beaver dams for fisheries.

M: Just part of the beaver dam though right?

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W: Yes, just part, because the beaver dams also act a natural barrier that backs the water up the slough. They act just like the barriers or planks that we have here [in the Weaver Creek spawning channels] to back up the water up to a certain level so that the salmon can spawn.

M: So if it weren't for the beaver dams would the slough be lower then?

W: In some years, like drought years. Some years there were no fish returning. This has been documented for over a hundred years, but has been happening for probably thousands of years. Poor salmon returns are not a new thing. It is just something that happens, a cycle pattern. It happens today too, but there is more impact on the fish from humans with all the technology.

M: Would people have brought their canoes into the slough channels?

26.00 minutes

W: Yup, yup. They used to even torchlight in some of the sloughs. I did that before. If they wanted, you know?. In certain sloughs they probably did that because there is no current, there is the underground water that comes up from the bottom. That's what sloughs are, they are fed from underground springs and the water kind of boils out from underneath. But in order for that to happen, the sloughs have to be kept clean; that's why you need to have a large volume of fish to come up. I was told by my grandfather and my uncles that the first fish that come up used to kind of cleanse the gravel by flushing out silt and the leaves and even open up the beaver dams a little bit. This would open the sloughs up so that fish COULD spawn in the sloughs. Then, the fish that came up a little later would spawn more successfully.

There was a period that lasted from the beginning of October till the end of February that Dog salmon would come up the River. There were three different species of Dog salmon: slough dogs, Harrison River dogs which are larger and the there are the blackheads that come in late, January or middle of December at the earliest. They would last right till the end of February.

M: Can you give me a sense of the timing of each of these runs, sort of bracketing dates?

W: Well, at Weaver Creek spawning channel where we are now, there are some dogs that are just starting now and it is October 6th. Some of the fish that first come up in October are dog salmon, usually in the first week and sometimes even at the end of September. And that would mainly be at Weaver Creek spawning channel and Morris Creek and Evans Slough; that slough goes back onto the reserve. And there is Ed's Slough, John Mack Slough, Jimmy Charlie Slough and the Main Slough and Mike's Slough. There's about 6 major sloughs on the Reserve. And then later on, maybe around mid-October, around the 15-20th, then the water starts to come up as the rain increases and then you will see some of the fish separate. They come up together, but around this time they kind

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of branch off. A lot of the dogs will go into the sloughs and the river dogs will stay out [on the Harrison]. There used to be a distinct run, but they kind of migrate and lap over each other, but they also separate and you can tell the difference in them because the slough dogs are kind of mediocre [mid-size] if you judge them by size and also by the shape of them. The main stem dogs come in about the 3rd week of October. Same with the slough dogs too, but they come a couple weeks earlier and spawn in the sloughs. But over the whole period, they separate themselves and you can tell the difference in size. Like the River dogs are flatter and have a bigger hump and are much larger on average. And then the slough dogs would be mediocre [mid-size] and the blackheads they come in later, in December and they spawn in Morris Creek. Weaver where we are now flows into Morris. And then there's Evans Slough. So the Blackheads are generally found on the upper part of the reserve, from the Chocolate Bar this way [to Weaver]. And they are a totally separate run of Chum that came in late and that's probably why they had a fish weir across Morris Creek near Chocolate Bar and why they had houses there. It's likely because fish came up as far as February and possibly even later than that before.

W: So when the River dogs are just about done and the Slough dogs are out in January, the Blackheads are still around. The earlier runs of chum will be all dying off by the beginning of January, but the Blackheads are just coming in around the end of December or early January and stay till the bitter end of February. I caught them myself in February.

W: It is kind of a totally separate run, like I was saying about the Sockeye. My mom used to come up here and play with Sockeye and there used to be two separate runs of Sockeye which no one could believe. Actually, there are 4 runs of Sockeye, the Chehalis, Harrison River Sockeye and then there used to be two separate runs of Sockeye in Weaver itself. And we're talking about the same area that the chum spawn in. There used to be an early run of Sockeye that would spawn in here in July at Weaver and the later run would come into Weaver in October. And that's the same with same with the chum, three different runs.

M: So we're talking about different times of year that these runs came, different morphological characteristics and we're talking about different locations that they go to spawn.

W: Yup. To give an example, the Harrison River is 14 miles long and the fish utilize from Morris here all the way down to the mouth. That's about 7 miles. In this area is the Chehalis flats where the Chehalis spills into the Harrison. All of that is spawning area too.

M: So chum also go up Harrison Lake and up Chehalis Lake a little bit?

W: Yeah, you can imagine, I used to talk with my uncles and they would say fish were anywhere water was. Fish were everywhere. Even up to 90 or 100 years ago it was like that.

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M: So would the fish going up to Harrison Lake and Chehalis Lake be a particular run of chum or would it be all three runs?

W: It would be kind of the same thing. The fish would pass through here, starting in mid-summer. Right in mid-July. I know before at Silver River and the Lillooet River system, the Birkenhead system, sockeye, chum and spring would pass through here on there way to spawn in the upper areas of Harrison Lake. We're talking 20 Mile Bay and Silver River up at the north end of Long Island. And there's a bunch of little tributaries and steams up around there that all had fish in them at one time.

M: And when were you saying those runs were?

W: They were a little bit earlier. They probably started in the summer around July and pass through here on their way to Birkenhead. They'd swim right past here, up through the lake and go to it's head where the Lillooet River is. By September or maybe August you will see them in Silver River and I can imagine all the other Rivers and Creeks like 20 Mile [Mystery] and Cogburn would have Sockeye in there starting around August but spawning in September. And when September comes around here, then you see the Weaver Creek fish starting to come in here. And like I said, they kind of overlap with one another about halfway through each of their runs. So when the peak of one run is over, the next one starts. So it went this way from the middle of July all the way till the end of February. It probably went even longer a few hundred years ago. This is for all species of salmon.

M: That is a good solid part of the year.

W: Yeah, but the numbers now don't show it. Take chum salmon. What's left now is Weaver, because it's enhanced, the Harrison River chum and the Slough dogs, but they're not coming in the numbers they used to be because of man. There's pollution and over fishing. The numbers have dropped off even since I was a boy. I'm 55 now. When I was a boy the sloughs were filled. There wasn't as much commercial fishing of dogs back 30 or 40 years ago. Now that the row is popular in the Asian market, people are catching them more. Also, they get caught with the Sockeye in commercial fisheries. The depletion is not all fishing though, it is also diseases, weather, man-made structures and pollution, mainly pollution.

M: This knowledge you have of the different runs of chum you've seen yourself. Have you also heard about these runs from your elders like Ed Leon and Jimmy Charlie?

W: Yes, this information was passed on from my grandfather-that's how I learned about the late runs and the Blackheads. I also heard about it from my uncles, like Uncle Ed, and from my mothers side too, the Leons. Even my dad knew ever since he was a boy. My grandfather and grand uncles had this information passed on to them by their elders then. Information about these fish and species that were used was always passed down from generation to generation. Information about where and when the main peaks of spawning for the different runs helped to guarantee you would get what you wanted. Say you

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wanted Weaver Creek fish, whether it's chum or sockeye, you'll come up here in August or September. If you want the later dogs you come up around mid-January.

M: It's nice to have this kind of background information.

W: It was the same with the Chehalis River. If you knew the fish and the time of year they spawn, you'd know exactly when to go and put the traps out or spear. They used this knowledge to preserve fish for the winter months. They did this mostly by smoking.

M: Speaking of smoking, were there different methods of harvesting the different runs of chum and were they used or preserved in different ways?

W: From my knowledge, they were all preserved pretty much the same except for maybe the mid-summer months when the weather is too hot. What the natives used to do, because there was so many fish available is that they would catch chum or whatever and then trade off with people up at Hope or somewhere like that. They would wind-dry the fish up there to preserve them. But we would catch fish and probably trade off fresh fish for wind-dried fish. We used to wind dry and sun dry fish here as well, but the main technique was smoking.

W: Sockeye they mainly wind dried them. Chum was actually mainly smoked for preservation. Some times this would involve half-smoking, but mainly they were dried right up to jerky. But they also used to eat a lot of fresh fish. These days people half-smoke, freeze, salt, can, you name it.

M: Last time we spoke you mentioned that people differentiated between the runs of chum.

W: Well, when chum first come up they are fattier and harder to preserve. In the past, like a couple hundred years ago, it was harder to preserve fish for the winter months cause you could only wind dry or smoke. Now days, we can take fish from the very first part of the run because we can half smoke them, can then or freeze them. Still, they had fresh fish all year round. This was just a way of making sure that there was going to be enough to eat in case it was really cold or a hard winter. You can never predict what's going to come up, even in the past, they couldn't. So when fish start showing up, the first thing they do is catch fish and preserve them to make sure they had enough because the later runs might not show up, at least not the great numbers that they needed. So, they'd do it as soon as could, from my knowledge, they'd preserve it all the way through. In some years they had fresh fish all the way through and some years maybe they didn't-it was a protection. They would always make sure they had enough banked away in case there were big storms or runs that didn't come. If it was too cold to go out and fish, they'd use other methods like the weirs. But still they'd have to keep ice off it. So if they ran into that trouble they could go back to spearing again. And if it's too cold for that, they wouldn't risk their lives, that's what the preserved fish is for. They'd only go out for fish when they really needed to.

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M: So as far as you know, the River dogs, Slough dogs and Blackheads were all treated the same, smoked or eaten fresh?

W: Yup. But they were all different timing. Slough dogs would come in early October. This depended also on the weather like rain and the amount of water. Back in the 80's and 90's the sloughs started drying up, they didn't have enough water in them to attract the Slough dogs so they'd naturally stay in the main stem of the Harrison to spawn and that's how they got all mixed up with the other Harrison River chum. But years before, in my time, they were distinctly separated. A couple hundred years ago they would have been distinctly separate runs, but now they are kind of modified. There are so many new factors that have influenced these runs in the last hundred years or so.

M: You spoke about size differences before, was there also a difference in taste?

W: No, not really. Not that I know of, they all pretty much taste the same. But Blackheads were more of a firmer fish. Their texture was more solid, but that didn't influence the way they were caught or smoked. My Mom used to do a lot of smoking. For a while we had the only smokehouse in Chehalis.

M: Where is that at?

W: It's still standing there. It's been standing since I was about 4 years old [51 years]. It's still there if you want to look at it.

M: Where about is it?

W: At my parents place. My mother is alive yet, she's 88.

W: We used to do mainly Spring salmon about the start of October. But see, fish are not the same today as compared with even when I was a boy. They used to all come up at the same time. Fisheries weren't controlled as much as they are now days. Commercial fishing used to wipe out the front part of run and leave the back part or wipe out the tail end and leave the front to get away. That's why I say the timing of River dogs and Slough dogs and Blackheads are not the same. Blackheads are almost extinct and Slough dogs are around, but in much smaller numbers. All the commercial fishing that happened in the last 30 years or so affected the timing of all the salmon runs everywhere, but especially in the Harrison where we have all 5 species.

M: Do you know if the salmon harvesting techniques differed depending on the area you were in? for example, sloughs, Harrison main channel, Chehalis River etc? Were there any traditional techniques besides torch lighting and weirs which you talked about already?

W: They used to use dip nets made out of leather stripping or something like that they would have on poles. I know they used to use these for catching smolts. Coho smolts would be trapped in ponds after the fish spawned. There were methods for scooping fry

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which involved digging in the gravel and using fine nets. This was done after the adult fish had finished spawning. Minnows would come out around the end of February or the beginning of March and would stay through till June. That's what they used to live on. They were still salmon, but they used to catch them as smolts and fry in fine netting. They smoked them too. Part of that tradition was passed on to me by Tommy Alec and Alec Joseph who used to do that when I was a boy. I tasted that. His boys would do scoop them up with fine netting and dry them out in the sun.

M: So they would have had particular areas that were better for that.

W: Yeah, but I don't know about that. I do know that they had fish traps with fine netting for that too. I don't know if they used the same weirs and just used finer webbing or netting or what, but I imagine it was done something like that. I don't have proof of that, but I do know that was passed down to me by Tommy Alec. They did do that and he told me when I was a boy that they used to use fine nets as scoops to catch fry. And my uncle Ed mentioned that when he was a young man he would drift down the river and look for weeds or algae. He told me that natives used to just scoop the algae and remove it and there would be fry underneath that they would eat. And they'd cook it any method they wanted, or smoke it or dry it or eat it fresh.

M: Could you tell me more about the slough channels being feed from an aquifer?

W: It's actually ground water that comes from the bottom. It is an underground river I guess and then it boils up in all of the sloughs. That's where all of the slough water comes from. And if you walked around the sloughs in the past, you would see water bubbling up in certain areas. It's an upwelling of water into the sloughs. So even if the Harrison River is down, the sloughs can be up higher and when that happens, waters actually flows out of the sloughs into the main channel.

W: That's why it's so different for the fry of the different species of salmon. Slough dogs just had this gentle upwelling, whereas River dogs are larger and spawned out on the main stem. Slough dogs could spawn in the sloughs with the upwelling of water and it was siltier with more dirt and leaves in sloughs. The fish had to be stronger and larger to spawn out in the main stem because of the current. That's a big difference between the two. And Blackheads are kind of in between, because they would spawn in the upper areas of Morris and Evans Slough at the northern end of the Reserve. I think that they probably came into Weaver in the past too. But they weren't in great numbers when my uncles told me about them and I started seeing them. The farthest I've seen them is at Evans Slough and Morris Creek.

M: I don't think you've given a physical description of the Blackheads since I've had the voice recorder on, would you mind?

W: Blackheads usually come up after the majority of River dogs and Slough dogs. There are still Slough dogs around in December, but the start of the Blackheads came up at the end of December and last till the end of February. It used to be much colder though,

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colder water and more freezing, that's when the Blackheads mostly came up. They would go to the northern end of the Reserve, to Morris and Evans Slough.

M: Why do you call it a Blackhead?

W: Because of the blackness on their head. It's a deep black and it's kind of shiny on the outside and black on the inside. It's kind of like looking in a mirror. And the whole top of their back is black also, but they still have the same pinkish "paw" mark on side that River dogs and Slough dogs have. They are blackish purple on the sides whereas the other dogs are green on the top and white on the sides with a pinkish "paw" mark. They turn black on top when they get older and are ready to spawn. That's the distinct physical appearance of Blackheads.

M: Have you heard of Blackheads showing up in other river systems?

W: I don't really know, I'm not sure if Blackheads made it up as far as Mystery or Silver River on Harrison Lake. I don't know if they exist anywhere else, but as far as I know, I haven't heard people talk about it or document it.

M: Are there any ceremonies that mark the beginning of the chum run?

W: Hm. I don't think so. They used the first fish that came up in the past, but that's modified a bit now. Today they have it whenever. Sockeye and Chinook are the first that I remember seeing when I was a boy, they came up in the summer. That's what was passed on to me by my dad and grandfather too. Dogs came after that along with the major part of the Chinook salmon run. And later on, you have the Coho and so on. They are the last species to come up in the year, they come in November, but before they would come in October. In my experience most of the fish used to come up together and all species came up, it was just the greatest numbers that were Sockeye and Chinook but there were always coho, and chum and pink mixed in. Now, there's no Coho yet, they'll probably come up in mid-October and when they do come, there will only be a couple dozen that come to the spawning channels. 30 years ago, there would have been a couple hundred here already. This change has occurred just in my working career, I can only imagine how much more has changed in the last couple hundred years. All the species came almost at once so it was more important to have that selective fishery that I described before. This way they would only have the salmon that they wanted. They would also treat the fish differently depending on whether it was really fatty or not. Some salmon they would eat fresh or maybe just let go because it was too fatty and they knew they couldn't preserve it right. They would have had this knowledge passed down for hundreds or thousands of years because they've been doing it for so long.

W: White Spring for example are quite fatty. They are not as fat as out in the salt chuck [the ocean] cause they burn off a lot of their fat, but they are still fatty. It can be difficult to smoke them in a smokehouse. Some people, even recently experience these White Spring falling off the skin because they are too rich and too fat.

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M: Not with the chum though right?

W: No, no the chum too much. You can get them pretty rich, but not like the Spring or Sockeye, it's really different. Chum are more solid fish, more muscular and easier to preserve by smoking or drying.

M: Could you describe the smoking process to me?

W: Everything was passed on to my Mom. What you have to do is fillet them. You don't cut them from the stomach; you cut them from the back. And you cut the head off and you cut the fins off because that's where some of the major bones are and that's where the fish will get spoiled first. For some reason that where all the muscle and more of the fat is that makes it get spoiled. The fatty tissue is around the fins, the pectoral fins, the caudal fins and dorsal fins. The bones at the back were used to your advantage because you would take sticks and put them through. If the fish was too fatty, you would cut strips and put them in the smokehouse and make jerky. And every part of the fish used to be used. Even the back bones would be hung up with the fish and dried. They would then take the back bone out just before they ate it. If you are big fish eater you can taste the difference between fish that was dried with and without a back bone. And there are some people that like it with the back bone.

W: There would be a smoldering fire that was started with some dry wood like cedar mainly. Once it was going, you'd always have green alder. That was the main wood used for drying salmon. It made the fire smolder more which gave the fish a kind of smoky flavor. They left these alder in big sizes, from 6 inches to a foot in diameter. So the small cedar would start the fire then larger pieces of alder maybe one or two depending on the size of the smokehouse would be put on it to make it smolder. You would watch it for the first half-hour or something to make sure it doesn't flame up too much. The fire would just be smoldering with a little bit of heat. As far as I know, the smokehouses in the past like my grandfathers were about 10 or 12 feet high. The fish would be quite high in the smokehouse on racks. The fire would be below the fish. There was another level of rack even higher than the last where you would put your fish once it was half-smoked. New fish would go on the lower one where they got the heat and smoke. The higher ones got the cold smoke and were preserved this way. They used to leave them in the smokehouse to just hang. They left them there.

M: That is how they would store them?

W: I don't know how they kept predators like mice off them. There was also flying squirrels that would go into my Mom's smokehouse and eat the fish. We could put them in freezers and stuff like that, but I don't know what the old natives did. In some stories I heard about people taking them down and keeping them with them. Some food they used to bury in the past from what I know. And boxing too, cedar boxes would be made to store food. And the pithouses, they would have served like cellars. Back when I was a boy everybody had cellars and would bury vegetables and stuff in the ground. These cellars were cedar which was all sealed up so nothing could get in. Cedar is a durable

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wood that lasted quite awhile in the ground. It was told to me by my grandfather that they did this. This would keep it cool and safe. But even in the winter it wouldn't freeze, it would just stay cool and persevered. They would dig it out when they needed it. Sometimes we could just take advantage of the cold weather by catching fresh fish and hanging them up in the shed. They would freeze and wouldn't go bad for a few days. It didn't taste the same after it was frozen.

W: The first refrigerators and freezers came out here when I was about 8 or 10. [The lack of electricity and storage may have caused the Chehalis to continue with traditional preservation techniques more than other places].

W: Talking about storage, people used to have these little crate boxes that they'd store food like butter and hang them up high so mice couldn't get at it. The boxes were solid, like orange boxes so birds couldn't get at it either.

M: There is an interesting account of box-like caches that were stored above ground written by a man who visited the Chehalis village in 1858. He said he could smell the fish in them as he walked by.

W: Yup, they used to hang them up in trees and have them in the ground. In the winter months they probably mostly buried their stores or had them right with them in those pithouses. They had storage areas in pithouses. Same with canoes, they used to have these cargo canoes for taking lots of cargo and people and they had canoes that were strictly for speed and for traveling.

M: Thank you for you time Wayne

Appendix D: Interview with Kelsey Charlie, October 1st 2009

en route to Chilliwack

Kelsey: We're just moving into the chum season and the Chehalis have always had a wealth of salmon. All of the other Stó:lō tribes and other tribes from different areas like the Cowichan, Saanich, Sechelt, would follow the salmon into the Fraser Canyon. We were told from our elders that the Chehalis never had to go to that territory [the Fraser Canyon]. And why do you think that is? Well, we already had a gold mine in our own backyard. And as for gaining access to the sletsis [wind dried salmon], we had trade routes coming through our traditional territory so when people came through they bear gifts. We never had to go up there, we had it coming right to us. So part of our wealth is what they call in our language "Scala", which is the winter preserve and is a form of currency. We had it in abundance because of the fall run on the Harrison River. Of course there was the chum, but there was also the pawk, which is the white Spring salmon [discussed by Duff], and the sockeye and steelhead. We had all that coming into our system so we never really had to venture off to get that [sletsis]. And the fall when it is cool and cold, is the perfect time to do the cold smoking for scala. And when the interior natives would come down to trade, they would come specifically for that salmon, our winter reserve.

Morgan: Does the scala refer to a particular species of salmon preserved by cold smoke or is it broader, referring to all species of salmon preserved in this manner?

Kelsey: I can't remember, I think that that name is just generic to the way it's prepared. But I remember people would look and say, "oh there's the scala!" and then they'd ask about it and then look again and say "oh Pawk!". Because that's the big white Spring salmon. All the fish had different names, but I think that scala is generic.

Kelsey: [The Fall] was always a bustling time because that whole ecosystem just erupts. You've seen it. The abundance of salmon that returns causes it to erupt. There are so many fish out there because there are so many runs all occurring at the same time in the Harrison system. So there are a lot of fish in the Harrison, they [the Chehalis] would say if you are hungry for a fish go out and get one. And it didn't matter if they were spawning because they would tell you, go and get me a nice bright chum so that I can cook it. So we would pick out the best one that was in there and then she'd cook it for us to eat.

Morgan: The best one in there?

Kelsey: Yeah, you know, we'd pick the brightest and best looking ones. Some looked quite rough. You'd be able to tell the difference when you cut them open.

Morgan: How did you get the salmon?

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Kelsey: Well, we got them through torch-lighting, we got them through spearing them, and the other way too, when we were young we used to just go to the sloughs with clubs and bash the fish. Very primitive. There were so many of them and they were right up to the edge. Also the water was shallow so we could just walk in with our gum boots and catch them. That was fun.

Morgan: Tell me about those techniques. The clubbing one is pretty self-explanatory, but the others?

Kelsey: Torch lighting was a very selective fishery because you had a canoe and you had a light and you'd drift down and we had guys on side of the boat and they would just spear the fish because they would get attracted to the light. And so once the fish got into the light, you'd be able to pick out which one you wanted. And that's what I mean by the bright ones, the nice ones. You'd go and look and select whichever ones you wanted. I remember sitting on the beach listening to my brothers and my cousins and uncles out on the water. I was too young to get out there, but I heard all this splashing and hollering with excitement. And they came in they would have all these huge, huge Spring salmon. They'd only take the best. They were probably all 60 + pounds because they were taller and wider than me.

M: Maybe they just couldn't hit the smaller ones.

Kelsey: Yeah!. And there was also another method that we used to all do. We'd go to the log pilings at what the elders called the "rapids". It's the area just below Sasquatch Crossing. Right there we used to go out on the logs with our long poles with gaffe hooks on the end. It was kind of the same thing, you could just watch all the fish come. So you'd chuck your pole out and when a good one came you'd just snag it and pull it. You'd have to fight it to pull it in. So that was a method we used. But also there was other methods we used when I got a little bit older. We would driftnet. It's funny because all the Sockeye are in the water, all of the white Springs are in the water, but you're actually out there fishing for the dogs, for the chum. And it's funny because you'd always just get the chum.

Morgan: Why would you go for the dogs?

Kelsey: Because they were the best for smoking. All the salmon are good for smoking, but we'd always just smoke the dogs. It's neat though, when you fish in the Harrison and then you fish in the Fraser, it's muddy and you can't really see what you're getting. You can see the fish hitting your net but that's all. We set a net in the Fraser River and it took us about 20 minutes to get 2 fish in our net. So we went home [to Chehalis] and were on the beach talking while all the salmon are jumping around right in front of us. So here we are, spending all our time and money trying to get these fish so we could smoke. So we said screw this, we'll just do a drift right here. Why are we going all the way out there to get the fish? So we got the net, went out on the river and it was really net. You could see all the Spring go down deep under your net, all the Sockeye, cut on the inside in the shallow and miss your net and the dogs would come right in. So we did two drifts and our

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boat and trucks and totes are filled up. After that other guys starting doing the same thing. It's a good method.

Morgan: Do you know the length of the chum run?

Kelsey: Chum are just starting now, so from the later part of September till December. I still see the chum in the sloughs in December. That's long, and there's so many of them, the Harrison chum is a big run.

Morgan: I read that the Harrison River in the fall is similar to the Fraser Canyon in the summer because groups would come from all around.

Kelsey: Yup, they would come up and fish or come out and trade. That is what a lot of them would do. I think most of it was through trade. Or if you were married in you'd gain access to resources. That's why you'd have arranged marriages.

Morgan: Do you know about using Sloughs as a means to collect salmon resources?

Kelsey: In traditional times they would build a man-made channel beside the slough and they would have a fish weir or fence that would divert the salmon into the man-made channel.

Morgan: So a channel running parallel to the natural slough?

Kelsey: Yeah, running parallel to the main slough channel. In that man-made channel they would have all these white rocks lying on the bed. This was also a very selective fishery. So they would go in there and spear or pull out all the fish that they wanted. And all of the fish that they didn't want, they'd toss back over into the natural slough so that they could spawn.

Morgan: Can you think of an example of one of these man-made sloughs?

Kelsey: Yup. At John Mack slough is an old, man-made channel. The fish trap is beside the pithouses just off from the slough channel. It sits right beside the slough. Have you seen it.

Morgan: Oh yeah, but, I assumed that it was part of the natural slough channel.

Kelsey: My grandpa told me that was what they made for harvesting the chum [and other salmon]. They would have white rocks in there. That's what my grandpa said. They would bring them from the Chehalis River so that when they would be easy to see.

Morgan: Well that would be easy to test archaeologically. Just look for white rocks.

Morgan: Also, Hiqelem. I think we've talked about this before, but there is some evidence that the inhabitants modified slough channels.

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Kelsey: Very resourceful. Imagine all the work. We were just over at Higelem clearing around the cemetery getting ready for the celebration this weekend.

Kelsey: A lot of this was passed on just from asking how come? Why? Teaching was always just brought out so you always just listened when they spoke. That's how I know what I know.

Kelsey: So you've never met Andrew Phillips?

Morgan: No

Kelsey: His name is Xwolitz from Xaaxta [Port Douglas].

Morgan: I like that connection

Kelsey: Well you can hear it in the name.

Morgan: That's very interesting because there is not that much archaeological evidence for either Xaaxta or Skutzas and yet there are all these connections and references to them in stories being Chehalis villages.

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