

Spring 2014

The Culture of Observation The Native Story Tradition in the Pacific Northwest between 1850 and 1930

Rob Black

Trinity College, rblack@trincoll.edu

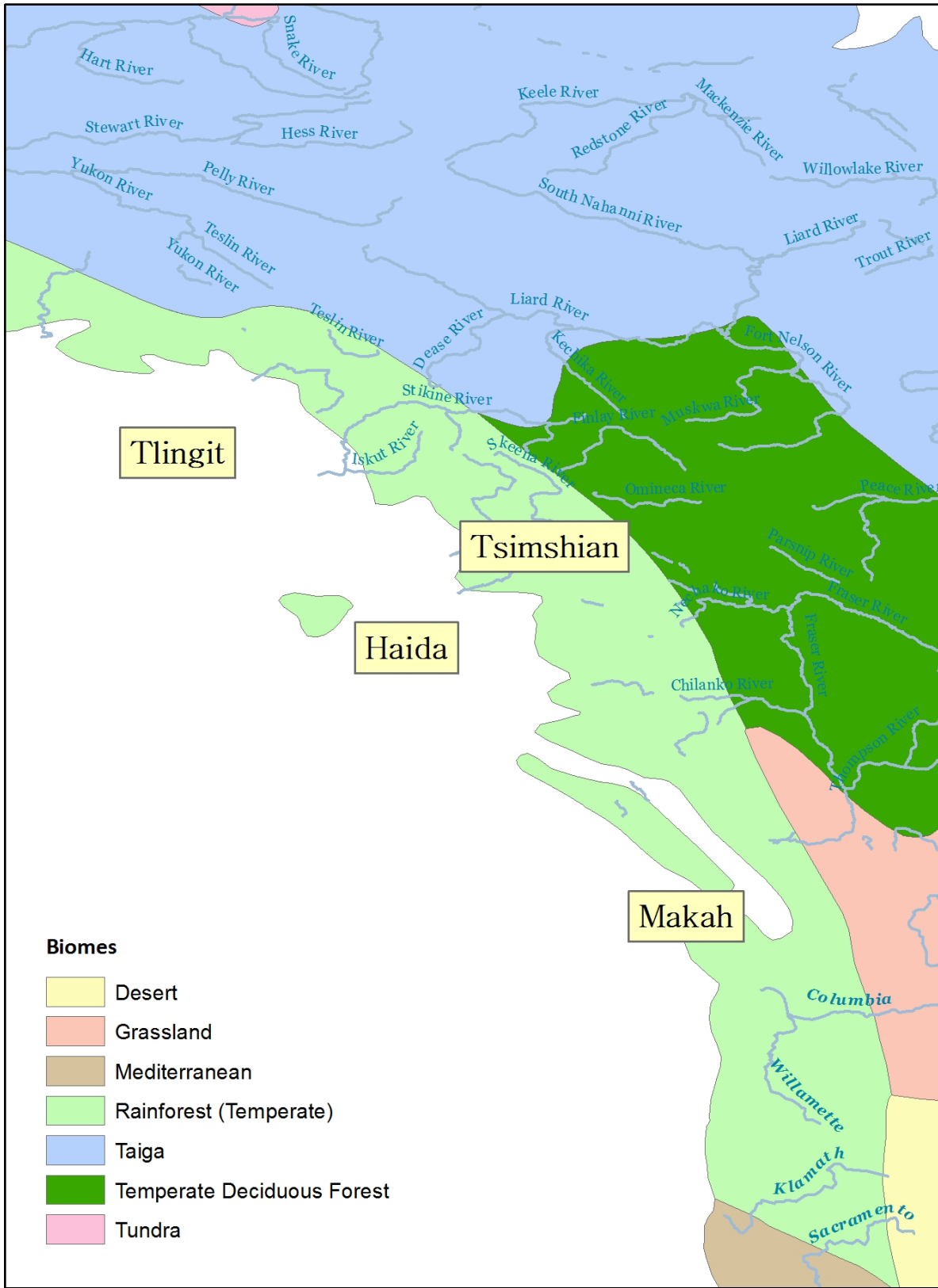
Follow this and additional works at: <http://digitalrepository.trincoll.edu/theses>

Recommended Citation

Black, Rob, "The Culture of Observation The Native Story Tradition in the Pacific Northwest between 1850 and 1930". Senior Theses, Trinity College, Hartford, CT 2014.
Trinity College Digital Repository, <http://digitalrepository.trincoll.edu/theses/363>

The Culture of Observation
The Native Story Tradition in the Pacific Northwest between 1850 and 1930

Rob Black



A Map of the Biomes, Waterways, and Tribes of the Pacific Northwest

Introduction

Topographic complexity and proximity to the Northern Pacific Ocean combine to create very diverse assemblages of plants and animals. The Northwest has tremendous landscape diversity over a fairly small area, a function of numerous mountain chains and quite variable precipitation...Drive 200 miles in any direction and you will experience significant ecosystem change, possibly more than anywhere else on the North American continent.¹

By the mid 19th century, the Pacific Northwest had begun to be explored, studied, and used for commercial gain by the settlers moving west. Inevitably, these settlers came into close and often violent contact with the indigenous tribes who already occupied the space. As a result of these clashes, coupled with the extreme changes in the environment, there is a plethora of close research, detailed study, and extensive notes about the cultures of these indigenous tribes and, subtly, how they changed with the influx of Europeanized settlers. Much of the culture of the indigenous tribes was kept in the stories that they would pass down from one member of the tribe to the next. These stories spoke of an intimate bond between human beings and animals, a bond so strong that they were used interchangeably throughout many of these stories. There was an inherent understanding of the behaviors of the animals and how they interacted with the more general ecology of the Pacific Northwest in these stories. Though these stories changed perspectives, we can

¹ Apostol, Dean and Sinclair, Maria; *Restoring the Pacific Northwest*; Washington DC; Island Press; 2006 (pg 4)

see how the environment, the people, and the animals themselves were altered both in a very physical way as well as in the culture of the tribes.

The wildlife of the Pacific Northwest is noted for its diversity, its beauty, and the ways in which it influences anyone who lives in that area. This paper will show how the behavioral ecology of some of these animals is reflected in the stories of the Native American tribe as well as show the ways in that these stories established practices and cultural values for the increasing population of settlers. Focusing on salmon, ravens, and grizzly bears, this argument will strive to show an ever changing and dynamic relationship between the tribes and the world around them, illustrating cultural, social, and physical change over the period of European settlement. Each of these animals represents very different aspects of the culture of the tribes due to their behaviors and niches in the environment. Because of their differences salmon, raven, and grizzly bear are good markers, because of their realm of influence both physically and culturally, for establishing the changing realm of Native American culture.

The Pacific Northwest's vast and diverse landscape has within it some of the most densely concentrated biomass other than the rainforests of the tropics. Because of this it is necessary to limit my research to distinct animals that have played an important role throughout the cultures of the Indigenous tribes living in this region. Even though there is such immense change in the ecological factors for the Pacific Northwest, the similarities between these tribes serves to highlight the continuity, whether in their culture or their everyday practices. The most significant tribes for this region are the Haida, the Tsimshian, and the Tlignit. Each of these tribes covered a large area of what is now Washington up through British Columbia and into Southern Alaska. Each of the

stories coming from these tribes highlights many aspects of the ecology of their specific region, and furthermore shows the subtle differences in how they interacted.

In order to fully grasp the ways in that the ecology was affected by the introduction of Europeanized expansion one has to understand the ecology of an unaffected Pacific Northwest. There were several different ecosystems in the area this research is concentrated on. These include “bushgrass prairies, oak woodlands and savannas, old growth conifer forests, riparian woodlands, freshwater wetlands, tidal wetlands, ponderosa pine and interior forests, shrub steppe, and mountains.”² Each of these ecosystems was vital to the maintenance of the whole, and they functioned in a very specific way. While this particular study will focus increasingly on the coastal ecology since the majority of the tribes lived on or near a water source, i.e. rivers or lakes, it is important to note the other ecosystems and how they tie in to the coastal ecology.

This kind of all inclusive tie-in between the various parts of the Pacific Northwest was noted by the Indigenous tribes, but not as much by the European Settlers who logged and fished at an unsustainable rate. This difference between the two major groups by the late 19th early 20th century meant that there was increasing pressure on the ecosystems that had to accommodate both the continued use by the Indigenous tribes as well as the increased commercial use by the Hudson Bay Co. and other Europeanized commercial businesses. As the continued use of the land by the settlers was focused more on profit than on sustainability, it was clear even by the early 20th century that there was going to have to be major shifts. There would have been an immense shift in the ecology for the western settlers to have picked up on it. These kinds of changes, such as

² Apostol, Dean and Sinclair, Maria; *Restoring the Pacific Northwest*; Washington DC; Island Press; 2006 (pg 27)

the drop of fifty percent in the salmon population during the runs, meant that the stories of the Native Americans in the region would have been irreparably altered.

During this period of changing ecology there was an increase in the record and study of the actual stories from the Indigenous peoples of the area. This was usually done via government-backed researchers, such as Franz Boas and John Swanton. Both of these men were tasked with the job of finding and recording, as a matter of anthropological study, the language and the stories of the people who had first inhabited the areas pioneers were moving into. Because of the oral nature of the stories themselves, these records offer a glimpse into how these stories were being told at this particular time. By comparing these with the then current ecological factors it is possible to see the patterns in how they relate and to find elements of the ecology that would not have been present before this time. Of course, one problem with this source of primary records is the Western influence in the translation and recording, but given the fact that these are the earliest written accounts and that they were copied directly from an orator it is safe to assume that they capture the story in its essence as well as in the particularities.

Franz Boas was a preeminent anthropologist, sociologist, and historian in his day and age. While there is some controversy about the strict adherence to historical accuracy in his recordings, his work is the only anglicized record we have of many of these cultures.³ Much of his texts, even though they were written over one hundred years ago, still show the most in depth study of the more remote tribes that has been widely produced and translated into English. Specific to my research I will be using his account of the native stories in *Tsimshian Texts*. This text deals with his collection and writing

³ Wickwire, Wendy; *Grizzly Gave them Song: James Teit and Franz Boas interpret twin ritual in aboriginal British Columbia*; American Indian Quarterly, 2001, Vol. 25 Issue 3, pg. 431-452

down of the native stories as he heard them told to him or his subordinates. This is a crucial part of my research because it is the oldest account, in English, of the native stories from that region. Even though the use of any popular western author has its controversies, Boas' work will prove to be the backbone for much of my interpretations and understandings of native stories.

One of the most widespread and understandable criticisms of academics from Boas' time was the racism inherent in the culture. While this is a factor in many writings, there are several reasons why Boas is, in many ways, less of a problem in this regard. The racism at the time was centered on an understanding that people held different intelligences and cultures based on a racial predisposition rather than any external factors. That is to say that people of African descent acted and behaved the way they did because they were black, not because they were raised in the same sort of environment that every other person of the same race was raised in. Boas was one of the first to refute this claim. He stated that culture was not something inherent to the individual, but rather it was learned through the interactions that each person had with the environment and people around them⁴. While it would have been almost impossible to totally remove oneself from the racial aspects of the society, Boas was certainly a powerful and learned opponent to the race based descriptions of culture. Furthermore, Boas is praised as not putting any one culture's values or practices below his own. Instead, he attempted to study a culture and to establish why some people valued items differently from another. This is incredibly important to my study because it is a research objective that endeavors to describe and explain a culture without demeaning it or comparing it to Western

⁴ Hegeman, Susan; *Franz Boas and Professional Anthropology: On Mapping the Borders of Modern*; University of Florida Press, 1998

thought. Boas, through his work, is giving at face value what he is seeing and then trying to interpret it. While this may not be perfect, it is still the first and unvarnished look at a culture from the eyes of an academic.

While the attempt to stay away from racism is evident throughout the work of Boas, it is still impossible to truly remove your own opinions from any kind of analytical study. Even though Boas may have felt only respect towards the tribes, his own experiences would have influenced the ways in that he observed the Tsimshian people. His book, *Tsimshian Texts*, further mitigates this problem because it does not offer any kind of deep analytical thought. This book is simply a record of the stories of the tribes in English. Underneath the English text there is also a translation explained from the Tsimshian language. While it is unlikely anyone reading this would be able to read the Tsimshian language, it further highlights the dedication that Boas showed towards an accurate depiction of the tribes. Including the tribes own language lends a much greater credibility to the translation and the academic nature of the actual writings. It is hard to see any reason why there would be a change in the actual stories themselves, but this detail added in waylays any fear that the actual language will be lost, leaving the modern audience with only the English. Boas' dedication to the tribal culture, language included, is significant and made clear with the use of the language in the published book.

Finally, while there are obvious flaws to using Boas as opposed to some other source closer to the tribes themselves, the work of Boas is the most accessible piece of information out there. The native tradition of storytelling was primarily oral and it was passed down from storyteller to storyteller as a matter of tradition. The culture was not written down, recorded only in the minds of the people who would sing and recite these

stories. Before Boas the only material version of the stories was recorded in totem poles and other decorative pieces. In this medium it was primarily the main characters of the story depicted and perhaps one pivotal act, but there was little to no continuity. When looking at these artworks the people of the tribe would understand that story was being referenced and draw inspiration that way. Boas was the first one to actually write down the substance of the stories so that they could be shared and kept for a longer period of time. This became especially important as western influence started to push the tribes to the fringes and encroach on their culture. Without this work there would be no record of the tribal culture and stories without extensive interaction with western settlers. Boas is vital to my research because he is the only recorded source of the stories that are the backbone of the project, from the period before western takeover. He represents the academic before industry and this makes his work immensely important to the entire thesis project.

While it is obviously controversial to use western sources when discussing Native American tribal culture they provide an interesting record and an opportunity to find bias and change over time and across the cultural divide. Frances Densmore wrote a piece entitled *Music of the Indians of British Columbia* that came out around 1926. This is a work that details Densmore's work recording the songs and their meanings for several tribes across British Columbia. One of the most interesting and telling moment comes early on when he talks about "[Knighthum's] grandfather once spared a whale that talked to him, and therefore the whale helps him at the present time" (Densmore, 29). This episode shows an important aspect to both the culture of the tribes as well as the anthropology pertaining to that. The most important aspect of this episode as it pertains

to my research is the actual interaction with the whale. In the stories, animals interact with humans in a way that would never be seen in real life. They communicate with them, have relationships, and often have contests and friendships. However, in the account that Densmore gives the medicine man dictating is not discussing a story. He is recounting the true tale of how one of the members of the tribe received his ability to help those in need. Talking to the whale after sparing it is a very real action that had important and lasting physical results. This recounting shows an important link between the ways that stories show the world and how it is perceived by the tribesmen.

The native stories have always been an object of fascination to western audiences because of the ways in that they deal with nature. There is a personification of animals and plants that is never seen in western mythology to the same extent. However, it is important to note that much of this personification was not simply for creation of a character, but it was very much an example of how the native peoples interacted with outside communities. In Densmore's research he discusses the songs that are sung before a hunt to guarantee success. These songs do not exemplify the hunter in any way, but rather ask for the animal's willingness to be hunted and killed. For example, "in the portion recorded, [the singer] calls upon the deer, and there is a pause during that he imitated the sounds made by a deer. This was said to mean that the deer heard and answered his appeal" (Densmore, 28). This passage gives a clear example that the tribes did not only have a unique and in depth understanding of the animal ecology, but they also interacted with it in a way that was foreign to the western audience. Even in his tone, Densmore seems to show skepticism about the actual performance itself. Despite the skepticism of the recorder, it is clear that the medicine man fully believes in his

ability to commune with nature and in doing so further both his life and the lives of everything around him. This kind of important and physical link between the people further serves to support the idea that native tribes would not have simply seen the interactions in stories as a fairy tale, but rather a true to life interaction.

It is an example such as Densmore's that show the importance of using a Western academic source when talking about native cultures. Densmore is, in his tone, interested in the cultural songs and traditions of the tribes of British Columbia. However, it is clear that he does not believe it or see it as a credible way of viewing the world. Whether this is due to racism or scientific viewpoints is unclear, but in the criticism we can glean much more about the inter-cultural interactions. Going beyond Densmore it is possible to garner very important information about the ways in that Native Americans interacted with the wildlife. This was not only a spiritual but also an intensely physical interaction wherein they could talk and help each other beyond what we see as simple, ecological motivations. Furthermore, Densmore shows that parts of the culture were hard to swallow for an academic and thus where the Native cultures would differ from the ever more present western stream of thought⁵.

“Ecological losses have only just begun to be tallied. Old-growth conifer forests west of the Cascades, the most studied ecosystem in the Northwest, now cover only 10-15% of the presettlement extent in Oregon and Washington, with higher amounts remaining in British Columbia and southeast Alaska”⁶.

⁵ Tomalin, Marcus; *'No connection or cooperation'? Missionaries and anthropologists on the Pacific Northwest Coast*, Journal of the Royal Anthropological Institute, Cambridge; 2009

⁶ Apostol, Dean and Sinclair, Maria; *Restoring the Pacific Northwest*; Washington DC; Island Press; 2006 (pg 4)

This idea of historical territory is another one of the important factors that is brought up in conjunction with this paper. One of the most important case studies in tribal rights from this region is that of the Makah people and their battle over their whaling rights. The Makah were established whalers along the “Georgia-Puget network embracing the Coast Salish of the Gulf of the Georgia-Puget Sound region; and a lower Columbia network that included southwestern Washington and northern Oregon coast.”⁷ This was an ancestral home and an ancestral practice that would come into conflict in both the realms of land use and whaling rights. This was one of the most influential instances of the Federal Government taking away land from a tribe in a deal to protect some aspects of their cultural heritage. In exchange for the land the Makah people were guaranteed the right to hunt whales and other animals as they had for centuries⁸. However, as soon as the whale population began to decline rapidly this guarantee was taken away and the Makah were also banned from hunting any whales, despite the treaty. This kind of deal was important from a cultural standpoint because it took away the most important aspect of the Makah heritage due to increased amounts of Western influence on the whaling market. This would cause a heavy impact on the oral tradition of the tribes as they moved forward, both losing out on some of the whaling practices as well as adding in this idea of the whale being a finite resource. In many ways the Makah example of federal influence is common throughout the region, with concessions to territory or cultural practices having to be made in order to continue existing as they had. While this speaks to the changes that the tribes had to endure it also speaks to the ways in that the tribes were bale to evolve practically with the new pressures.

⁷ Schoonmaker, Peter K. and von Hagen, Bettina and Wolf, Edward C.; *Rain Forests of Home*, Washington DC; Island Press 1997 (pg. 262)

⁸ http://www.historylink.org/index.cfm?DisplayPage=output.cfm&File_Id=2632, Accessed 2/18/14

With the Makah's whaling rights being taken away from 1920 until 1999 there was a significant loss in the culturally historical methods of hunting. The traditional method of hunting the whale involved a harpoon being launched into the whale from canoes. Following this several smaller spears were thrown into the weakened animal until it died, oftentimes after several hours. This method was replaced by 1999 with big game rifles such as “.458 Winchester Magnum, .460 Weatherby Magnum, .50 BMG, and the .577 Tyrannosaur, that the Makah fired in the 1999 hunt”⁹. All of these rifles have an immense cartridge that is able to kill the whale almost immediately and allows for a more humane and efficient form of hunting. Along with this, however, is the idea that the old cultural practices have been lost and taken over by an almost exclusively western method of hunting. Almost the only aspect of the original hunt is the harpoon shaft and the canoes, with even those being replaced. In terms of this research question, how does this change reconcile itself with the stories of old and the importance of the whale hunt? If this is a process meant to be highly ritualized then why has it been so altered over the years? Was it simply just the lack of practice and continuation over the 70 plus years of the ban or is it more so that the culture itself changed so radically that traditional hunting methods were less important than the actual dead animal? All of these questions show how complicated the stories of the indigenous tribes are when put in the context of an ever more powerful western influence.

There has been, up to this point, lots of work done on the ecology of the Pacific Northwest and, as shown above, the practices and cultures of the tribes that dwell within it. Starting in the 19th century there has been a tradition of logging and discussing the cultures of tribes such as the Haida, Tsimshian, and Tlingit and their relationship with

⁹ http://en.wikipedia.org/wiki/Makah_people#cite_note-8

nature. Scientists have studied the ways in that the ecological zones have changed as increased commercialization and industrialization continue to mold the Pacific Northwest into a landscape very different from what Franz Boas saw when he first arrived¹⁰. The uniqueness of this project is that it looks to combine the two fields of study and to show a change over time in the culture and stories of the indigenous people as they cope with the changes in the surrounding landscape. As the landscape changed with increasing western influence the cultures of the tribes had to change as well because of their fundamental attachment to the land. The Pacific Northwest is one of the richest zones of biodiversity on the planet, and any changes would have lasting effects on the ecology as a whole.

This project will focus exclusively on a much smaller scope than the entirety of the Pacific Northwest ecology. By looking at salmon, ravens, and grizzly bears I am able to identify the overarching theme of environmentalism in the stories as well as provide a diverse habitat and behavioral range for my subjects. The first of these chapters will focus on salmon and the role it plays in the everyday life of the Indigenous people of the Pacific Northwest. Because of its abundance this was an animal that I recognized in almost every single one of the stories. I will discuss the ways in that salmon was seen as the source of life for both the people and the animals that inhabited the region. While salmon do not have the same kind of individual, character based roles as the other

¹⁰ Various Authors, ed. Harkin, Michael and Lewis, David Rich, *Native Americans and the environment: perspectives on the ecological Indian*, Lincoln: University of Nebraska Press, c2007; Wadewitz, Lissa K., *The Nature of Borders: Salmon, Boundaries, and Bandits on the Salish Sea*, Seattle, University of Washington Press, 2012; Vogel, Carole Garbuny, *Legends of landforms: Native American lore and the geology of the land*, Brookfield, Conn.: Millbrook Press, 1999; Thrush, Coll-Peter, *Native Seattle: histories from the crossing-over place*, Seattle: University of Washington Press, c2007; Goble, Dale, and Paul W. Hirt. *Northwest Lands, Northwest Peoples: Readings in Environmental History*. Seattle, WA,: University of Washington, 1999; Nelson, Kurt R. *Treaties and Treachery: The Northwest Indians' Resistance to Conquest*. Caldwell, ID: Caxton, 2011; Gastil, Raymond D., and Barnett Singer. *The Pacific Northwest: Growth of a Regional Identity*. Jefferson, NC: McFarland &, 2010; Darnell, Regna. *And along Came Boas: Continuity and Revolution in Americanist Anthropology*. Amsterdam: J. Benjamins, 1998; Coté, Charlotte, *Spirits of our Whaling Ancestors: Revitalizing Makah and Nuu-chah-nulth Traditions*, Seattle and London, University of Washington Press, 2010

animals do in the stories, they nevertheless show an important and integral role both before and after the influence of settlers. Salmon slowly become a “cash crop” and gain massive importance, but economically as opposed to their previous life giving source.

The second chapter will look at ravens and how its behaviors, although the same in both Europe and North America, were perceived in radically different ways. In North America ravens was seen as a trickster and a creator, ultimately being the smartest of the animals and able to survive on wit. This view is repeated throughout the stories and shows the interesting synthesis of a character responsible for the creation of the world and a character who exists to cause problems. The contrast with European views is striking with the settlers holding on to the view of ravens as evil and associated with death. Edgar Allen Poe was one of the major contributors to this kind of idea, famously tying in ravens with the death of his wife. This view comes from the viewing of ravens on a battlefield eating the dead, a sight that was seen in North America but given no such sinister context. This image itself highlights the difference between the ecological focus of the indigenous tribes and the more industrial, self-interested views of the majority of settlers.

The third and final chapter of this project will focus on grizzly bear and how its reputation as a fearsome animal was diminished with the introduction of guns and other big game hunting technology. In the early stories from the region there is always an inherent respect for grizzly bear as an animal that is capable of killing at a moments notice. Anyone who comes into close contact with them is invariably eaten unless they are able to somehow trick the bear. However, this chapter will focus on the fading respect for these animals as it becomes easier and easier to kill them. The introduction of

the fur trade meant that grizzly bears began to be valued less as an animal hunted for pride, and more as an animal hunted for economic value. The castration of a bear in one of the stories shows the ways in that they had, by the early 20th century, been stripped of their previous elevated status and relegated to a much lower place in the ecological hierarchy. This chapter will be the final push to show the ways in that the physical actions of the Europeanized settlers fundamentally altered the beliefs and traditions of the indigenous tribes.

Without the ability of the tribes to pull up physical documents relating to their stories and mythology, it is impossible for them to have any firm grasp of their previous stories. However, one of the most intriguing aspects of this oral tradition is that the core elements of the stories, the roles of the animals and the ways in that they interact, are malleable. The moral of the story will remain throughout the telling of it since the reason it was put into the culture was to illustrate a point, but the most fascinating aspect of these stories themselves is their ability to change the “how” as they progress through time. By choosing the stories such as *Salmon Boy* and *Grizzly Bear Wife* the tribes were establishing their own morals to a western audience, while at the same time incorporating the changing atmosphere of the land into their culture. The tribes knew that they were in a fragile place with the incursion of settlers and the slow removal of many of the natural aspects of the scenery. In order to combat this they told these stories and drew upon both the ancient aspects of the tribe as well as the modern transitional aspects of the landscape in order to create a wider spectrum and synthesis of story and real life. By examining these stories I can unpack the ways in that the culture of the tribes was being altered, both

physically with the logging, fishing, and hunting, as well as socially with the loss of key components to their way of life.

Sustenance to Canning

Salmon in the Native Culture and the Introduction of Settlers in 1860

Salmon, perhaps the most numerous and certainly most important commodity to the Pacific Northwest, is one of the keystones for the both the Native American culture and lifestyle. Salmon features prominently in almost every single one of the Native American stories, although more often than not it does not take up the role of a character, but rather drives some plot point forward. Unlike the characters of grizzly Bear and ravens, who are very much active participants in the stories, salmon almost never has a speaking role. Rather, salmon are treated as a reward, a prize, a life source, and a common form of food for every other character in the story. This speaks to the importance of salmon as the primary food source for the ecosystem of the Pacific Northwest. Humans, bears, birds, other fish, all relied on this one animal and its predictable behavioral patterns in order to sustain life. Because of its role in the ecosystem, the advent of westerners and canneries had a much greater impact than is seen in other parts of the ecosystem. With the exception of logging, the western influence on salmon had the greatest ecological repercussions as well as some of the most far reaching cultural impacts on the Indigenous population.

The term “salmon” refers to a large variety of species that used the rivers and lakes of the Pacific Northwest as their spawning grounds. While each species has slight variations in their behavioral ecology, they can fairly safely be generalized in terms of their ecology when talking about this specific region. As a concrete example, the Chinook salmon (*Oncorhynchus tshawytscha*) is the most commonly referenced salmon in the fishing logs of the 19th and early 20th century. It was the most populous salmon in the

area, and continues to be to this day the source of many of salmon products coming out of the Pacific Northwest. When discussing salmon in this chapter, the Chinook will serve as the basis for all ecological behaviors and regions.

Salmon are “anadromous—born in freshwater, migrating to the ocean, and returning as mature adults to their natal streams to spawn.”¹¹ This kind of movement between the ocean and the freshwater rivers of the area is one of the reasons why these fish are so easily caught. The sheer biomass of salmon moving up and down the rivers means that net fishing is extremely easy during the times of year when salmon are moving between spawning grounds (known as salmon runs). The streams that salmon use must be colder than 14 C and must move quickly, allowing for easier movement and escape from predation along their route¹². The estuaries along the routes also allow for easier hiding and escape from predators, making it vital as both an in-between zone from the ocean to the freshwater as well as a congregational area for salmon to move as a pack. When moving in large numbers salmon are attempting to reduce the probability of a predator attacking them as an individual, while at the same time increasing the chances of at least a few of their number being caught as they make their way up the stream. With the start of large scale netting operations this would ultimately prove to be a habit that would kill off hundreds of thousands of salmon, but in the pre-western Northwest these salmon runs gave the opportunity for large scale catches and sustainable fishing by both tribes and wildlife.

Salmon breed in seasonal periods depending on the temperature of the water and the amount of frozen water there is. The runs occur usually in the summer and the fall as

¹¹ http://animaldiversity.ummz.umich.edu/accounts/Oncorhynchus_tshawytscha/#geographic_range

¹² http://animaldiversity.ummz.umich.edu/accounts/Oncorhynchus_tshawytscha/#geographic_range

this is when the least amount of ice and other obstructions would be blocking the river both on the way up and for the return to the ocean by their offspring. Salmon usually have a huge amount of eggs that they lay, between 3000 to 14000¹³ eggs. This kind of breeding behavior indicates an expectation that the vast majority of these eggs will not live to a sexually mature age, in this case 1-7 years old. One of the biggest problems with fishing for salmon is that they have to be caught on the way upstream towards the spawning pools. After laying the eggs and inseminating them, the adult salmon die off and their bodies provide a food source for the newborns after they hatch. This means that the fishermen have to catch the adult salmon before they have a chance to breed. This in turn means that there has to be a strict regulation on the number of salmon taken lest there are not enough salmon alive at the spawning pool to generate at least a zero sum gain of sexually mature offspring. Since all of the adults die, it is necessary that at least an equal number of young salmon survive or else the population begins a downward spiral.

The leading natural cause of baby salmon not reaching sexual maturity is predation by larger fish and other animals. The most common predators of salmon are; bass, American shad, gulls, bears, killer whales, seals and sea lions, eagles and other birds¹⁴. The combination of all of these predators means that thousands of smolts out of each breeding pair of salmon will be eaten before being able to reproduce. However, once salmon make it back out into the ocean then they become one of the top predators due to their large size and pack movement. While still able to be eaten by the larger predators such as killer whales and bears, these fish now have the ability to consume the

¹³ http://animaldiversity.ummz.umich.edu/accounts/Oncorhynchus_tshawytscha/

¹⁴ http://animaldiversity.ummz.umich.edu/accounts/Oncorhynchus_tshawytscha/

plankton and other smaller marine animals that they rely on as a food source. At this point salmon have only the commercial fishing standing between them and sustainable reproductive practices. Since netting is able to take thousands of fish at one time, it is impossible for the fish to navigate the streams without losing a critical mass of their population. Native American tribes did not have the means to take the quantity of salmon that the Western canneries would by the 19th century, yet they could still make a dent in the numbers.

While Native Fishing practices mirrored those started up by the canneries, they were not able to affect salmon presence in the same drastic ways that the Western fishermen did. Salmon is the most important animal for both the ecosystem and the tribes that inhabit the Pacific Northwest. It is a keystone species, providing the most amount of food for the predators that help to keep other populations in check. In tonnage, salmon provides the most abundant food source for every animal that uses it as a staple food source. They also appear in regular intervals, making it a reliable and consistent source of food that could be planned around by the tribes. In order to stockpile enough salmon there were traps implemented that allowed for the catching of large amounts of salmon before the Western industrial fishing complex. However, the overfishing that became so widespread with the commercial traps and machinery meant that there has been a steady decline in salmon population since the 1880's. A recent study from the University of Oregon shows that there has been a decrease in 40,000 total tons of salmon from the peak in 1879 to the period where the Chinook salmon was declared an endangered species in 1991¹⁵. One of the most revealing graphs from this study deals with the increases in the numbers of salmon caught in North America from the 1880's up until 1990. This shows

¹⁵ <http://zebu.uoregon.edu/disted/ph162/113.html>

steady exponential growth from 1880 to 1930, the period when the greatest amount of technology was introduced to the Pacific Northwest and the fishing moved from sustenance to commercial. At the same time there is a decline in the “in-river catches” over the same period of time, alluding to the fact that there has been an increase in harvest farms as opposed to the more traditional fishing methods. This over fishing and lack of ability to reach spawning grounds means that less salmon are breeding and the numbers will steadily decline due to over fishing.

One of the other major factors in the loss of salmon habitat is the use of dams between the 1880’s and 1940’s. During this period dams were put in with little understanding of the needs of salmon in terms of migration. In order for salmon to be able to navigate dams there has to be some sort of salmon ladder, a factor that was not introduced until much later on in the development. Because of this there was a major barrier in salmon’s ability to reach their breeding pools and consequently a drop off in the numbers of wild salmon being introduced. In addition to the dams blocking the wild salmon migration patterns there was also a start the creating farms to harvest salmon so that they could be fished year round to meet growing commercial demand. These farms served to mask the numbers of salmon in the wild as well as create intense competition for nutrients between hatchery salmon and those that were moving from the ocean up the rivers. This competition served to further decrease the numbers of wild salmon as the numbers of hatchery salmon greatly overshadowed the number of wild salmon. This meant that the behavioral ecology of salmon was drastically changed in the eyes of the tribes. Salmon were no longer acting in the ways that would have influenced the stories about salmon tribes in the ocean. Instead, they were seen as objects of commercial

fishing. However, they still provided the majority of the food for the tribes, even as the growing commercial fishing practices made the old fishing methods less reliable. It is interesting to note the changes in salmon's perceived role in behavior only as opposed to grizzly Bears total personality and ability shift.

The final major cause of salmon population decline is the increased logging in the areas surrounding the inlet rivers. With an increase in technological logging and pesticide use there was an increase in salmon deaths due to poison in the stream and loss of deep pools due to runoff. The logging was often followed by more profitable ventures such as major agricultural practices on the land. This meant that there was an increase in pesticides that killed of the bugs that salmon would eat as well as poisonous runoff ending up in the streams. This was coupled with the poisons coming from the increased amount of industrial practices in B.C. and Alaska. The introduction of pesticides meant that there would be an increase in toxicity that killed off both salmon and large amounts of their food sources. While the specific causes would have gone unnoticed, there was a clear decline in salmon populations following the introduction of Western technology, a decline that is documented in a year by year basis. This also speaks to the fact that salmon was important enough to warrant a very intense and thorough record keeping movement by the fishery operators. However, this numbers game does not deal with the ways in that the behavior of salmon as a whole was changed from the ways in that the people would have interacted with them before the fisheries. The change in the behavior of salmon is the most important part of my research, and this can be seen in the movement from wild to farmed fish.

The ecology of the Pacific Northwest relies, as do most ecosystems, on an abundance of a certain prey species as well as keystone predators to keep that population in check. The major prey source throughout the Pacific Northwest is salmon. This is caused by the migration patterns of salmon to its breeding grounds. These fish are unique in that they will always return to the same spawning pool in that they were hatched, meaning that their numbers and occurrence is always predictable for the predatory species in the area. As salmon swim upstream they are easily picked off by bears, eagles, and other predators in the area. They are one of the main keystone species in the area, providing the nutrition for a huge amount of the ecosystem as a whole.

The largest of salmon species, both in number and size, that lives and breeds throughout the Pacific Northwest is the Chinook (*Oncorhynchus tshawytscha*). It weighs up to 18 kg and is almost 100 cm long. The amount of fat and energy that is contained in these fish is some of the largest from a single source in the Pacific Northwest. This fish is able to sustain many of the predators for multiple days given the amount of kcal it gives off when it is eaten. The lack of another food source that can give as much energy means that salmon is extremely valuable. A Grizzly Bear requires a huge amount of kcal in order to maintain its large frame. Without the fatty meat that salmon has this would have to come from much leaner prey as well as berries and other fruits that they find lying around the ground. The colder temperatures are the reason behind the mutual benefit for both of these species.

Salmon requires so much body fat because it needs a huge amount of insulation in order to survive the frigid waters of the Arctic Ocean as well as the rivers and bodies of water further inland. This is also true of almost all of the animals that live in colder

climates. There is a constant tradeoff between having enough body fat in order to stay warm as opposed to having to ingest enough food to stay warm and sustain your size. Grizzly Bears have a large layer of fat so that they do not have to spend as much energy on staying warm as some of the smaller animals. However, they have to ingest enough food to maintain their body fat and size. Salmon is the perfect example of an animal that requires little energy to fish and provides a huge reward. The more salmon grizzly Bear can ingest the less it has to worry about finding berries and other, smaller animals to eat en masse. Salmon also requires much less energy or danger as hunting a moose. Moose are big and angry. The amount of energy required to kill a moose is huge. Oftentimes the bear will incur injuries as well, an aspect of the hunt that can lead to imminent death. When hunting salmon grizzly Bear is simply required to stand in the middle of the migrating salmon populations and grab them as they pass by.

The ecological value of salmon for the larger predators, specifically grizzly Bear, is the reason why it is so prominent in the stories of the tribes from the area. Much like the other large predators, humans would have seen these migrations as a source of major food for the winter months as well as throughout the summer when the rivers were not frozen over. It is evident why both of these animals, Grizzly Bear and salmon, feature so prominently in many of the stories. They interact with humans in a very direct and oftentimes predictable way, making it easy for the storytellers to incorporate them into the stories in an accurate and recognizable way.

There is an episode in the Tsimshian story *Txa'msem* in that the protagonist is trying to catch a salmon in order to eat it. He digs a very deep hole next to a stream and then dares salmon to jump up and hit him in the heart, killing him.

He said with a loud voice, 'Steel-head salmon, hit my heart.' After he said so he sat down quietly. The steel-head salmon hit his heart, and Txa'msem lay there dead. After a little while he opened his eyes and saw that salmon had jumped over the hole he had made...the same was repeated. He told salmon to hit his heart, and it did so. Again he was dead...he opened his eyes again, and saw salmon that lay right in the middle of the rock. He went down slowly and caught it.¹⁶

This episode shows a number of important aspects about salmon and how it pertained to the survival of the tribes. Primarily this passage shows the effort that the hunters and fishers from the tribes would go through to catch these fish. While I am almost positive they did not have to reanimate themselves after being head-butt to death, they would have gone through a certain amount of dangerous mechanics in order to catch the fish. In addition, this image of death highlights the nutritional importance that salmon held to the tribes. If they were unable to get enough of the fish then they would die. Although subtle, this is clearly a passage detailing the importance of salmon and the risk/reward played by the tribesmen as they hunted for it.

As well as showing the importance of salmon as a food source, this passage also shows a deeper understanding of a very simple yet important aspect of salmon ecology. When salmon return to their breeding grounds they are forced to swim upstream, against the current. In order to achieve this they swim in large packs to minimize current. However, there are certain sections of rivers, such as rapids or waterfalls that have to be traversed

¹⁶ Boas, *Tsimshian Texts*, 1902 p. 53-54

through another method. Salmon are able to swim up these more difficult sections by leaping out of the water and clearing rocks and other obstacles. They repeat this jumping motion until they are past the areas where the current is too much for them to permanently remain in the water. This part of their behavior is reflected in two ways in this short passage. The first is the actual jumping of salmon once it has been taunted by Txa'msem. This obviously mirrors the actual act by the fish in the wild: jumping with force enough to clear obstacles in the water. The second way in that this story shows the ecology of the fish is the way that salmon is caught. Txa'msem does not use a net or pole, but rather is able to simply pick the fish up off of the rock once it has beached itself. This is not out of the realm of possibility as a fishing method during the spawning season. Because of the numbers of fish, the terrain that they are forced to jump over, and the lack of predictability on where they will land there would have almost surely been fish that landed on the shore or on rocks in the river. It would have merely been a matter of safely traversing the terrain to get to them. Although short, this is clearly a section of a story that uses ecology and culture in such a way that the listeners would have recognized salmon's actions as well as Txa'msem's and seen the realism in them.

There is another episode in the story *Ts'ak* from the same collection of texts that talks about the fishing of salmon as well as the competition that the tribes would have to endure when collecting this valuable resource. In this episode a boy, Ts'ak, catches many salmon but they are all eaten by a Grizzly Bear.

The great Grizzly Bear had eaten all salmon that he had strung on the cedar twigs. He said 'Big drop-jaw Grizzly Bear has done this.' Then the

great Grizzly Bear came down and said to Ts'ak, 'Why do you scold me?' Ts'ak replied 'Why do you eat all salmon I catch?' ...at once grizzly Bear snuffed him in, and Ts'ak was in his stomach...[he] made a fire of pitchwood in the great Grizzly Bear...the Great Grizzly Bear ran about, and smoke came out of his mouth. Before long he fell down dead. The Ts'ak came out of his anus.¹⁷

This story is important because it highlights the importance of salmon as well as the behavior of grizzly Bear. While Grizzly Bears rarely got in arguments about who took whose salmon they were still scavengers when they could be. Any fisherman who left their catch unattended on the side of the riverbank would have animals attempting to steal it at all times. This episode is important because it has the two most dangerous animals competing to get salmon. While this reinforces the importance that salmon played as a food source for the different animals in the area, it also showcases the different ways that humans and Grizzly bears would interact when it came to food. There was no way that a human could contend directly with a Grizzly Bear, but they would have certainly been able to outsmart them or create a distraction so that the bear would not have been able to steal their catch. This is shown in Ts'ak's lighting a fire inside grizzly Bear in order to kill it. While this is an exaggeration about the circumstances of killing the bear, the use of fire would have certainly been a strategy used to protect the food that they caught. This particular episode ends with Ts'ak eating the bear and having enough food to last the winter, illustrating the importance of the food no matter how lucky it was to come by.

¹⁷ Boas, *Tsimshian Texts*, 1902 p. 118-119

The common thread throughout these stories is the importance of salmon as a food source for all of the predatory animals living in this ecosystem. While these two sections focus primarily on humans and Grizzly bears there was a huge amount of competition from the birds, such as ravens and eagles, as well as the aquatic predators such as seals or even killer whales. It is important to understand the role that salmon played in the ecosystem not only as it pertains to humans fishing, but also how it pertains to the greater interactions of all the wildlife. Because these stories are so rooted in the ecosystem and how it functions as a whole, salmon is necessary to understand in order to grasp why many of these animals are acting in the way that they are. For example, Grizzly bears will fight and steal for the ability to get salmon from any source possible. It is because salmon is so valuable as a resource for every member of the ecosystem that it receives such prominence in the stories. In almost every story there is some mention of fishing or of salmon specifically. The magnitude to that the tribes depended on and used salmon cannot be understated, and in much the same vein this meant that they would have an intimate knowledge of the ways in that every animal in the area interacted with salmon. It is this kind of understanding that comes through from the storytellers, and one of the reasons why these kinds of stories vary so greatly from any form of Western myth. They are based in observation and fact rather than guesswork. They describe what they see rather than try to explain.

This change in the behavior of salmon highlights the various ways in that the indigenous tribes of both Canada and the United States would have had to interact or change their customs to fit in with the new pressures. Increasingly the tribes were used as cheaper sources of fishing labor for the bigger canneries. This caused an exposure to

western culture in a very direct way as well as changing the role of salmon from a life giving source of food to a source of income for the tribes themselves. This kind of respect for salmon can be seen throughout the stories of the indigenous tribes, from their attempts to catch it at large personal peril (fighting a grizzly bear) and the overt punishment of people who disrespected salmon in any way. The stories, both historical and cultural, reflect the varied aspects of salmon in this world and the ways in that it was represented in the indigenous tribe's everyday life and stories.

John Swanton was an American ethnographer working on Native Americans through the end of the 19th century and into the 20th century. His actual area of expertise was very broad with his subjects ranging from British Columbia all the way to the tribes of the Southeastern United States. While there was very little real focus, his contributions to the general study of the tribes and their cultures were one of the first ever done by a Western academic. Particularly extensive research was done by Swanton on the Haida people of the Pacific Northwest. He was able to obtain firsthand interviews with the tribal elders and storytellers that are vital to any kind of study of these tribes and their life. Being able to put an actual, non western person behind the stories gives a much more personal and unvarnished reproductions of the truth than simply copying down a story for public amusement. Swanton's work with the Haida, particularly with their culture before a large amount of Western influence, provides a unique insight into the ways in that this tribe interacted with the environment.

The Haida people are a tribe that resides in the Pacific Northwest, specifically in what were once the Queen Charlotte Islands.¹⁸ These lie within British Columbia and

¹⁸ "Haida." *Encyclopaedia Britannica. Encyclopaedia Britannica Online Academic Edition*. Encyclopedia Britannica Inc., 2013.

some of the Prince of Wales Island in Alaska. They were bordered by the Tlingit and Tsimshian tribes and shared many of the same cultural values that these tribes had. Their entire economies were based on fishing of salmon, halibut, and cod since these offered the best food sources in the area. These fish, especially salmon, required very little actual work in order to get, and given the numbers of fish that would migrate annually they were the staple food source for almost every meat eating animal in the area. This ease of food acquisition meant that the Haida became very well known for their artwork given that they had time to devote to it. This artwork came mostly in the form of carvings and other wood based pieces¹⁹. These pieces of art allow the observer to get a better understanding of what was important to the Haida from a cultural perspective as they mostly made pictures of stories and animals important to them. By observing the totem poles one can see that animal life played an important part in the Haida culture not only as a matter of sustenance, but also as the objects of cultural fascination. There is no better way to understand the synthesis between these two points of view than through the stories that were recorded by Swanton and other ethnographers of the time.

The first mention of salmon in the stories of the Haida comes in relation to the concept of gambling. In one story that Swanton details there is a member of the tribe who gambles away the entire town, including the people and his family. In order to reclaim them the gambler acquires a magical gambling stick and manages to win back the five towns and all of their belongings. Salmon come into play because the force that initially wins the gambling is the “son of the one who owns the dog-salmon” (Swanton, 56). Swanton makes a note here that the “one who owns the dog salmon” was thought to

¹⁹ "Haida." *Encyclopaedia Britannica. Encyclopaedia Britannica Online Academic Edition*. Encyclopedia Britannica Inc., 2013.

live in the Land of Souls. When a gambler arrived there he would gamble with the owner of salmon. If the gambler won then there would be a great run of salmon; however, if the gambler lost then the “one who owns the dog salmon” would take many more souls, implying widespread death among the population. This obviously shows the importance that the annual salmon run had in the livelihood of the tribe. This is a very concrete way of explaining why there might be some years without a great run of salmon, and the consequences of that. It is important to note that it is made very clear that the lack of salmon would mean many deaths. This is the one keystone source of food for the entire ecosystem in many ways, a fact that was identified by the Haida. In recounting this story Swanton is making it clear that salmon is the life of these people, and sometimes it would not be readily available. The lack of a run could be due to changes in salmon breeding pattern or increased predation out at sea. Whatever the cause, this was an occurrence that would devastate the Haida and, presumably, all the tribes in the area. This story is an example of how ecological happenings were rationalized by the people.

In another story from the Haida people there is a chief’s wife who falls ill and asks to have four dog salmon put on top of her since she enjoyed them as a food.

He then put four dogfish into her box, and did not put a rope around it.

After many nights had passed he went to see his wife. There were large maggots in the box, and he wept, at the same time striking his head against the box. One morning, after he had wept for some time, the fire was out, and he sent one of his slaves to the town of Falling-forward for live

coals. He then entered the town chief's house [and discovered] that this master's wife, who was supposed to be dead, had married there. She and the town chief's son were in love with each other. (Swanton, 72)

The chief then kills both of them for this trickery by stabbing them through the rectum with sharpened bits of wood. With that aspect of the story aside this is another way in that dog salmon (the Haida term for salmon) were used to bring life to someone. It is very clear that the chief's wife was dead and only by placing the fish into the box was she able to come back to life. This miracle is taken as a matter of course for the chief who is angry at the betrayal more than amazed that his wife had returned from the dead. This speaks, once again, to the ways in that salmon and fish in general, were seen as the source of life for the tribes. Along with the previous myth, without fish there would be death, yet the inclusion of the fish into the burial rites meant that death was staved off for awhile.

Later on in the story there are numerous references to salmon as the main source of food, again with specific references to the time when there are a lot of salmon in the rivers. One of the most striking instances is when a woman catches a salmon and lays it out to dry, yet her eldest son eats it and leaves "a bright humpback in its place" (Swanton, 76). This would appear to be a poor trade for the son who ate a relatively small fish and left an entire whale in its place. Yet the woman is extremely sad about the loss of her fish, not even remarking that there is a whale in its place. She starts a tradition of stinginess for the tribe from that point forward, making it clear that it is salmon above all else that gives the tribe its food. While a whale would keep the tribe well fed, it would be

almost impossible to store and keep fresh all of the meat. Salmon were easily caught and reliable, something that made them invaluable and much more effective than the occasional beached whale.

In another episode, Marten and Black bear go out to go fishing and bring their spoils back to the chief.

One fall both had been gathering salmon, and he said to Black-bear:

"Younger brother, stand in the creek downstream. I will stand above in the creek. I will float down to you the bodies of those I kill."

They did it at once, and his younger brother, Black-bear, went into the creek below and stood there. Now, as soon as Marten got into the creek above he floated one down, and his younger brother below threw it out.

(Swanton, 96)

This episode shows the ways in that the ecology of salmon was important to the entire ecology and ecosystem and not just the people. The marten is an adept fisher and is able to kill fish with relative ease. It does so by grabbing them as they swim by and pulling them onto the shore. This is very good for just the marten itself, yet it does not work well if the animal is trying to feed more than just itself. The black bear fishes in the same way as the brown bear, by standing at the edge of the stream and flipping the fish onto the land before killing and eating them. The Haida would have seen both of these animals fishing and seen how each interacted with salmon. In this description given by Swanton of a Haida story they are clearly describing a kind of teamwork initiative by the

two animals in a way that stays true to their own ecology, yet benefits the greater population as a whole. Because the marten is a much more efficient killer it is the animal chosen to do the actual killing, but because of its size it is not able to gather up the fish in any sizeable way. Instead, black bear is chosen to gather up the fish since he has the ability to easily collect the fish so long as he does not have to be quick to catch them. These two animals working together in this story highlights the in-depth knowledge that the Haida people would have had about the behaviors of each. While this is not directly referring to salmon, it does show that the ecology of animals was particularly important to the people when it came to interacting with a food source. In addition to the fishing part of this story there is another section in that the marten leaves only the gills and entrails for the chief and his family. This speaks to the fact that the marten was known for only eating the insides of the fish, rarely the parts that the people would consume. In addition to the knowledge about the fishing, the Haida even knew specifically what parts of the fish the marten ate. This meant that they could share the same salmon without having to worry about crossover. This section of the story shows that the Haida people not only had a very deep knowledge of the fish, but also of any animal that would compete for salmon as a food source.

In another one of the stories that Swanton describes the protagonist is given the form of an eagle and wants to learn to hunt in the same manner as the eagles. He initially is scared and goes out only to return with a whale jaw. This is substantial fare, and he grows more confident in his abilities for the second day. On the second day he returns with a spring salmon that is even better than the whale for the reasons that I have already talked about. The eagle fishing for salmon is yet another example of how the Haida

would study and record the ways in that other animals would interact with their main food source. In terms of the eagle, it becomes clear throughout this story that they do not see this animal as any kind of competition to be worried about either for amount of salmon eaten or in innate danger such as grizzly bear. The eagles in this story eat a wide range of animals, mostly focusing on the whale. This is because the bald eagle is primarily a scavenger and would have congregated around beached whales and other dead animals. By choosing to focus on the animals that the eagle hunted it is clear that the Haida, in this story, are focusing more on the ways salmon would have been a rarer catch for these animals. In the story, the eagle is very prized to come home with a salmon, more so than the whale jaw. This is because eagles would not have the opportunity to catch as many of salmon as they would in finding them after some other animal had killed them. The only chance an eagle has of catching a live salmon is for one to be waiting at a depth where their talons can reach them. Beyond this they would have to find a salmon that had died or already been brought up, yet had not been killed. This was much less likely than finding pieces of a whale that had not been eaten already since it has so much more mass. This is yet another example of how salmon was the most treasured source of food for every meat eating animal in the area.

The whales receive their own kind of recognition, both as a kind of hybrid between a food source and a powerful creature in the water. In one story a chief is keeping two killer whale children in his house, while at the same time he has fins of other killer whales hung up around in the other sections. He is thrown out and takes the fins with him. He uses the fins and wood to make models of killer whales and, upon throwing them into the water, he brings them to life and they bring him food. Eventually he tells

his wife to warn their family members to wear a feather in their hair when they go out fishing since he has told the killer whales to kill anyone fishing without a feather in their hair. They continue to bring him food and he ends up living happily with his family.

This myth ties together the idea of salmon and the killer whale in the Haida culture and stories. Salmon obviously lives in the water where its main predators would be other marine animals, such as killer whales. Because killer whales were rarely, if ever, used as a food source it can be inferred that the most interaction people would have had with them would have been to have seen them around areas where they were killing and collecting fish. Killer whales are carnivorous, mainly eating seals and other, larger fare but would have just as quickly picked off salmon if they had the opportunity. It is not out of the realm of possibility for the killer whales to have eaten a human if they had been out of the canoe or swimming in a feeding area. All of these aspects of the killer whale ecology are incorporated into this story. By establishing early on that the killer whales are carnivorous, when they bring the fish in, it is clear that the Haida knew and understood the diet of these animals. They also mention a sea lion in the story, alluding to the fact that killer whales would have more happily gone after larger seals and mammals due to their blubber. Also, the killer whales in this story are instructed to kill the rival fishers. This is an important aspect to both the culture of the Haida and the ecology of the killer whale. Humans are rarely attacked, so to have this kind of mass killing episode would not have been within the ecological norms or observable behavior for the whale. However, putting this episode in means that the Haida understood the power of this animal and the dominance it had in the water. They are the only fishermen to come away with any fish by the end of this episode and they are able to kill so many

people both out of revenge and competition for food. Once again, even though this is a story that gives a greater focus to the killer whales, the idea that salmon were the most sought after commodity in this ecosystem, for humans and animals alike.

In the myth *Salmon Boy*, from the Haida people of the coast line of Northern British Columbia, details the ways in that the native tribes respected and viewed salmon in particular as an incredibly important species to their culture. Because salmon was so integral to the survival and wellbeing of the tribes it became one of the most important characters in the stories of the people from the region. The respect for nature is a very well studied topic when it comes to Native American culture, and this story both reinforces that as well as provides concrete examples as to why that was. For the native peoples, nature was not simply something to be used for survival, but instead a very present aspect of their survival and culture. *Salmon Boy* provides the ground work for this synthesis of salmon as food and also as something much more.

This myth begins with a boy who shows no respect for the practice of hunting or eating salmon. He “step[s] on the bodies of salmon that were caught and after eating he carelessly threw the bones of the fish into the bushes” (firstpeople.us). This kind of disrespect was not taken kindly by the tribe, and they attempt to change his ways. However, he still refuses to show respect towards salmon and blatantly disregards the warnings that he is angering the spirits of salmon.

One day, his mother served him a meal of salmon. He looked at it with disgust. ‘This is moldy’ he said, though the meat was good. He threw it upon the ground. Then, he went down to the river to swim with the other

children. However, as he was swimming, a current caught him and pulled him away from the others. It swept him into the deepest water and he could not swim strongly enough to escape from it. He sank into the river and drowned. (firstpeople.us)

The boy is then taken in by salmon people as they are carried back out to the ocean where they have their village. One of the more interesting parts of this is that there is a moment when salmon and the boy abandon their bodies and it is only their spirits that continue on to their undersea village. The boy is then taught the ways in that salmon respect their bodies even though they are used for food. The boy is told to catch one of salmon children and eat them, but to bury the bones so they will come back to life. This is proven to work when the boy hears one of salmon children crying and limping, missing a foot. He remembers that he forgot to bury a fin and as soon as he does the child is cured. After several months the boy returns with salmon up the river and is caught by his own mother, who takes care of him until he returns to his normal form. From this point on he is the medicine man and helps to cure all the ills in the tribe, acting in many ways as a salmon. Eventually he realizes it is time for the old salmon to leave, so he goes down to the river and finds his salmon soul. He then spears his salmon soul and dies with it. The people of the village place his body into the water and it sinks, returning to salmon people below.

This story is one of the richest in terms of combining the various aspects of the Native American culture, ecological understanding, and spiritual awareness that are vital to my research. Broken down, this myth has three main sections, the boy disrespecting

salmon, his death and journey to their realm, and his return to his tribe before dying again. Each one of these sections has important aspects that highlight the magnitude to that salmon was revered and needed by the tribes of the Pacific Northwest.

The first part of the myth in that the boy blatantly disrespects salmon shows the ways in that the culture of the tribes put enormous esteem in salmon as a food source and as a spiritual creature. The opening moments highlight this, specifically stating “Though salmon meant life for the people, he was not respectful of the one his people called Swimmer” (firstpeople.us). This brings up the very real way in that the tribes depended on salmon. Before anything else salmon is identified as the source of life for the tribes. This is due to its incredible nourishment and high density throughout the streams. The boys disrespect can be seen as disrespect for the life of the tribes and their people. By stomping on salmon and ruining the food he is depriving the rest of the people of food. This is an idea that returns as he later becomes a healer following his stay in salmon people’s village. In the beginning of the story there is a mention of the spirits of salmon becoming angry. This is the first mention of a conscience as a whole from salmon population. It also alludes to a much more magical element to salmon. This speaks to the Native American cultural tradition of animals interacting with humans reciprocally. That is to say that salmon have the ability to impact the tribesmen in a very physical way, in the same way that the tribesmen can interact with salmon populations by fishing and eating them. This is put in action when salmon purposefully drown the boy after he again refuses to eat salmon meat that is offered him by his mother. When the boy is taken down to the underwater village the idea of the spiritual aspect of salmon takes precedent over their fish form.

After the boy dies he is taken by salmon that “left their bodies behind for the humans and the animal people to use as food” (firstpeople.us). This is a very real representation of the idea of a spirit that was prominent throughout the stories of the regions. This is another example of animals being personified, although in this instance they are actually humans as opposed to animals that are acting in human ways. Salmon people become human; something that does not happen in any of the other stories and points towards a special standing for salmon. In the other stories salmon is mostly seen as a food source or integral part of a conflict between humans and some other animal, namely grizzly bears. One possible explanation for this special status would be the lack of understanding as to where salmon go when they move out of the rivers. Throughout the entire winter salmon populations would be gone from the rivers, and without diving equipment it would be impossible for the native people to know where they went besides out into the ocean. This explanation of shedding their bodies and becoming a human tribe illustrates the importance and appreciation that the tribes had for this specific species. One ecological reason could be the ways in that salmon grouped. Few animals that held significance for the tribes would have moved in such high numbers and density. Salmon’s communal nature would have reflected the way in that these tribes would have moved around the landscape. The village underwater would have been a logical next step for a community people to make given the belief in spirits and human characteristics.

After he had spent the winter with salmon people, it again was spring and time for them to return to the rivers. The boy swam with them, for he belonged to salmon people now. When they swam past his old village, his

own mother caught him in her net. When she pulled him from the water, even though he was in the shape of a salmon, she saw the copper necklace he was wearing. It was the same necklace she had given her son.

(firstpeople.us)

This return of Salmon Boy to his home shows the very thorough understanding of salmon ecology by the Haida people. While it was easy to know when salmon would return, given the ice flows and routine nature of their spawning seasons, this kind of insight was put to use in the ways that the Native tribes would catch salmon. The traps were specifically designed to work with the fish swimming upstream. One such trap looked like Figure 1. This involved funneling salmon into the center of the pictured “V” where they would then be collected into a container or net. This was oftentimes supplemented by actual fishing with nets, a practice that allowed for a lot of personal catches. By understanding the ecology of salmon the tribes were able to harvest a vast quantity of the fish while still maintaining a healthy population to spawn in the pools upstream.

Besides the ecology there are incredibly important aspects to the return of Salmon Boy to the tribe after his sojourn in salmon people’s village. The most striking change is his ability to heal the people of the tribe, making him the medicine man. This is a theme that seems to be consistent throughout all the tribes of the region, namely that once a member of the tribe has interacted directly with an animal then they are granted special healing powers. This speaks to the magical qualities that the animals are attributed, especially animals in the water. Specifically this was the reason that the medicine man

gives for his father's power in Densmore's chronicle of healing songs from the region. Salmon Boy not only shows an increased respect for salmon, as was his custom when living underwater with them, but he now shows an increased respect for the health and the life of the tribe itself. This goes back to the idea of salmon as life and how that played out when he had trampled on the fish and shown no respect. As soon as Salmon Boy is exposed to the true identity of salmon and shows respect to this life giving animal, he is himself granted the power over health for his own people. This kind of spiritual blessing from an animal is significant because it shows a representation in a story of what was very much a real part of the culture. Finally, the last moment of the story shows Salmon Boy realizing that it was time for all of the old salmon to return to the ocean from the rivers. As he is a part of salmon people now, Salmon Boy goes down to the river and sees "a huge old salmon floating down toward him. It was so worn by its journey that he could see through its sides. He recognized it as his own soul and he thrust his spear into it. As soon as he did so, he died" (firstpeople.us). This episode again speaks to the ways in that the spirit of the people is intimately tied with the animals themselves. Because the spirit is able to move around, it is clear that Salmon Boy is simply a body upon his return. By killing off his own spirit, salmon, he is able to return down to the underwater village where he belongs.

This story has several very interesting aspects to it, both from a cultural and ecological point of view. Culturally this story points to a very clear and real understanding by the people of the Haida nation that animals had their own souls. This means that the stories and their interactions with animals were not made out of a desire for interesting fiction, but rather as a very real documentation of what happened. By

establishing the consequences of disrespect for the spirits of these animals, the storyteller is bringing further credence to this idea. Salmon Boy's drowning is the physical manifestation of the ways in that the spirits of salmon could directly interact with the people. In addition, Salmon Boy's return and subsequent ability to heal the human members of the tribe is another way in that the spirits of salmon are able to interact with the people. This entire idea points to the reasons why the animals in the stories acted in the way that they do. The cultural ideals of the Native Americans in the Pacific Northwest pointed to a conscience in the animals that was commensurate with that of the people, showing why there was such respect for nature as a whole.

The ecology of salmon over the course of this myth shows a very deep understanding of the migration patterns. The most important part of salmon ecology, as it pertained to the tribes, was the times when it would be most productive to fish for them. This came as salmon were moving en masse through the rivers either to or from the spawning pools. This is when the humans come into direct interaction with the fish, and the point at that all the interaction happened in the story. Salmon migration patterns are how the people received their life sustaining food, and why there was such an emphasis on fishing as the ways in that salmon spirits are appeased or angered. In addition, salmon's main purpose is to be eaten, and even the spirits recognize this when they offer their own spawn to Salmon Boy. Salmon were the reason why the people were able to survive for so long in a winter climate, and this myth speaks to their cultural, nutritional, and ecological importance for all of the tribes living throughout the Northwest Coast.

Intelligence against Death

Raven Culture Clash in the Pacific Northwest in the 20th century

Native American mythology is characterized for incorporating nearly every aspect of the natural world. This is a symbiosis based on the constant exposure that Native American tribes would have had to nature. Animals played important roles in these folktales and myths, as they were the primary characters. Each animal had an ascribed personality that carried through the myths, and this interpreted personality was based partly on the ways that the animal acted according to native observation. Ravens were an animal that lived throughout North America, but was particularly prevalent in the Pacific

Northwest and the Southwest. This bird was given different personas throughout native mythologies, but the most prevalent was its role as a wise creator, responsible for the creation of the world. This kind of positive interpretation of characteristics for ravens is complemented by the views that some settlers brought with them about the bird. It is seemingly inconsequential at best and, at worst it has an ominous overtone that gives the bird a menacing quality. The Native American interpretation and representation of ravens in their mythology showed a close study of its ecology. In a way, the contrasting view of ravens was representative of the conflict that would ensue between native tribes and European agents of western expansion. As Europeans expanded westward the changes wrought on the environment brought a change to the stories as they were relayed through oral tradition.

The mythology and folktales of the Native American tribes were passed down through an oral tradition. This makes it very hard to come across any sort of primary source that is not a Western transcription of the myth as it is read in its current form. Besides artifacts such as totem poles that can tell stories, this kind of verbal continuation is the only way of learning and reading these myths now. This makes it hard to identify what is the storytellers own artistic license and what is the original substance of the myth. However, this also makes it much easier to identify any changes because the people telling the stories are adding in aspects of their current situation.²⁰ These are not tales being read from a piece of parchment, but rather they are being adapted to meet the modern day circumstances of the tribe. The actual message rarely changes, but there are often additions and details that are an addendum by the storyteller as they are reciting it

²⁰ Image Courtesy of: <http://www.travel-studies.com/blogs/colleen>

to the person recording it. This fluidity in the specifics of the stories meant that European expansion slowly showed up in the myths.

The common raven (*Corvus corax*) is widespread throughout North America, but it is most densely located in the Pacific Northwest and Southwest regions. They prefer “open landscapes, such as treeless tundra, seacoasts, open riverbanks, rocky cliffs, mountain forests, plains, deserts, and scrubby woodlands”²¹. In addition to their preference for open landscapes they also tend to live in relative isolation from one another or in pairs inhabiting their own territories. Their territory can range from “5.1 to 40.5 km²”²². Ravens are regarded as among the most intelligent of birds because of their ability to problem solve and the ways in that they interact. When large groups congregate, usually around an area where resources are plentiful, their communication system resembles that of chimpanzees. This social aspect of raven’s image is one of the pervading themes that come through in the mythology. In terms of its eating habits, a raven is a scavenger, oftentimes relying on carrion and the bugs that live inside the flesh of a dead animal as sustenance. They also eat nuts and seeds that have fallen to the ground, but meat is their primary source of nutrition. A raven is itself a source of food to many of the larger birds of prey such as eagles and owls, as well as canine predators such as coyotes²³. Ravens that live in a protected environment are known to live to a very old age. The oldest raven that has been recorded in captivity was 44 years, and 13 in the wild²⁴. The longevity of ravens would have been similar to some of the native tribes, especially with the introduction of European disease. This comparison between the

²¹ Berg, R. 1999. “Corvus corax” (On-line), Animal Diversity Web. Accessed April 07, 2013 at http://animaldiversity.ummz.umich.edu/accounts/Corvus_corax/

²² Berg, R. 1999

²³ Berg, R. 1999

²⁴ Berg, R. 1999

lifespan of a human and ravens would have furthered the concept that this bird was special. Ravens' ability to quickly and efficiently solve complex new problems is the most common quality that comes through in the mythology of the Native Americans.

A common mistake that is made is the misidentification of ravens as a crow by some of the western explorers. The American crow is smaller than ravens, weighing anywhere from 250-1000 grams less than ravens²⁵. While this is not an important fact pertaining to the mythology since they were both treated as a raven, it is important to take into consideration when dealing with the settlers' reactions to the birds. Ravens do not like areas that have been settled, preferring to remain in the wild. Crows, however, are abundant in settled areas and congregate around places where buildings and other more permanent lodgings exist. Because of differences in the behavior of the two it is important to weigh whether the speaker is talking about an actual raven or just attributing the acts of crows to the larger bird.

The tundra and taiga ecosystem, that are prevalent in the Pacific Northwest, are sparsely vegetated with few dense tree clusters. This is the perfect habitat for ravens. The ecosystems consist of low lying bushes and the remnants of some larger flora that were able to survive the colder temperatures. This creates a perfect environment for ravens because it is able to roost in these remaining trees and patrol the territory, easily spotting any dead animal or other food source. Because they prefer the open, ravens are drawn to streams and other areas that lack the dense forests that are prevalent farther south. In the southwest there are similar ecosystems, but instead of tundra and taiga it is mostly desert, with interspersed cacti, woody shrubs, and a few larger trees. The limited dense growth

²⁵ Parr, C. 2005. "Corvus brachyrhynchos" (On-line), Animal Diversity Web. Accessed April 14, 2013 at http://animaldiversity.ummz.umich.edu/accounts/Corvus_brachyrhynchos

due to its lack of water means that ravens are still able to patrol their territory and find food without having to navigate through densely wooded areas. The eastern portion of North America is marked by large swaths of old growth forest. This is poor habitat for ravens. Because of this ravens occurs more frequently in the mythology of western tribes.

Ravens is seen in many of the different mythologies of the tribes as a magical creature that is able to create almost anything. This is clearly shown in the record by James Alexander Teit. Teit was a photographer and anthropologist who worked with Franz Boas, another Smithsonian based anthropologist, during the 19th and 20th centuries. The pair of them was recording the cultures of the Native American tribes so that they could be preserved by the Smithsonian. Teit's transcription of one myth involves ravens stealing the daughter of a chief and creating a house for her through his magic.

“[Ravens] went some distance from his father's house, and, pulling a feather out of his wing, threw it down and immediately a house sprung up”²⁶. While this is a minor act of magic it still gives valuable insight into the ways in that ravens was viewed in this particular culture. The most basic is that ravens are portrayed as a creative and resourceful character. The ability to create a house by magic was the interpretations of the wild raven's ability to problem solve and find ways out of problems that it may have faced. The image of the house is interesting because of the way it breaks down the wild aspect of ravens and the domestic life of the tribes. This dichotomy is prevalent throughout the myths as wild animals are given certain human traits while apparently retaining their appearance and characteristics. Ravens had to have been seen problem

²⁶ Teit, James Alexander, *Traditions of the Thompson River Indians of British Columbia ... collected and annotated by James Teit, with introduction by F. Boas*, Boston, New York [etc.] For the American folk-lore society by Houghton, Mifflin and company, 1898 (p. 89)

solving by the native people living in the area, and the mythology would reflect that by making it a magical character. Its solitary existence and jet black appearance already gave off an air of mystery so its manifestation as a magical being was a understandable reaction.

Another important observation when connecting this myth to the ecology of ravens is the way that the storyteller has put ravens in isolation by having him create a house away from anyone else. In the myth this is meant so as to hide his wife from society, but it is based on very observable behaviors of ravens. As stated earlier, raven's ecology focuses on its predilection to either be alone or, at most, exist in pairs. Ravens of this myth is being put away from the other characters for plot driven reasons, but ultimately it would not have made sense for the people hearing the story to imagine ravens in a setting with lots of other characters given its behavior. Another myth from Teit's collection where we do see ravens interacting with other birds gives more support for this ecologically based personality argument. There is a myth in that the bald eagle's wife is stolen and he challenges all of the birds to a fight to get her back. Although ravens are mentioned only briefly, it still shows that the native people were linking the interactions of various species to their stories. This myth states "Ravens had his hair combed by the women and then went out; but he, too, soon fell a victim"²⁷. This is clearly the mythological manifestation of the idea that ravens was often seen being preyed upon by the eagles. While this may be obvious, it is worth noting for its ability to so clearly show the relationship that the observable ecology and the mythology had.

²⁷ Teit, James Alexander, *Traditions of the Thompson River Indians of British Columbia ... collected and annotated by James Teit, with introduction by F. Boas* (p. 67)

The mythology of the Tsimshian people, a tribe located in southeast Alaska, focuses heavily on ravens as a sacred animal. However, it differs from the Thompson River people because of the nature of their view of ravens. These people see it “as the creator, but [ravens]’s actions were so little dictated by the considerations of the needs of man that they owe him no thanks for what he has done”²⁸. This leads to another aspect of ravens in the mythology that focuses on ravens as a trickster who uses his power for his own benefit. One story involves a man going to steal the bow of a chief and to escape he transforms into a raven and flies out of the smoke hole of the hut. This again puts ravens in direct conversation with the image of a house. In much the same way that Teit records, ravens is inside a house despite being a predominantly wild animal. The fact that it is trying to escape may be the storyteller’s way of hinting that this isn’t the natural environment. While this story may not have the same clear cut ecological explanations as the previous myths, it does give credence to the idea that ravens was seen as a clever trickster by many tribes. This was based on, again, its ability to maneuver through complex situations using its brain. “The smoke hole caught [ravens]’s neck...[he] pretended to be dead...then [he] took his own voice and put it in the woods, in a bluff behind Smoke Hole’s house...therefore he said to his smoke, ‘Open!’ It opened and [ravens] flew away”²⁹. This manifestation of ravens is clearly different from the solitary and magical view of ravens from the Thompson River people.

A more concrete example of ravens being viewed as a trickster comes from the Chukchee tribe. They see ravens as “separate from the Creator and [] not a god, though

²⁸ Teit, James Alexander, *Traditions of the Thompson River Indians of British Columbia ... collected and annotated by James Teit, with introduction by F. Boas* (p. 9)

²⁹ Boas, Franz, *Tsimshian Texts*, Washington, Govt. Print. Off., 1902. (p. 65-66)

he actually creates people and natural features in some stories”³⁰. The Chukchee still see ravens as having magical powers, yet they are similar to the magical powers as they were shown in the myth from the Thompson River people and less so the kind of grand, omnipotent myths that occur so often throughout many of these tribal mythologies. Perhaps the most interesting part of this myth is not the context, but rather the tribe itself. The Chukchee tribe is located along the very Northeastern peninsula of Russia, living on the Bering Strait. This proximity makes sense from an ecological point of view since ravens would exist on both sides given the similarity in climate and environment. The interesting part is how these two tribes came to extremely similar conclusions about the same animal given their apparent isolation from each other. Unless there was interaction on a fishing trip or an expedition it is hard to imagine these peoples interacting. As such, the fact that they both identify ravens as a magical creature that is an avid trickster means that there has to be an inherent behavioral action of ravens that allows for this interpretation. The fact that there is such overlap between the two tribes and their stories again points to the basis of the folklore being in observable ecology rather than the imagination. The Native people would have been in tune with nature to such a degree that they would have come to the same conclusions when presented with similar species and environments.

The land bridge theory, stating that there was a migration from Russia to Alaska early on in the history of man³¹, would allow for speculation of an earlier basis to ravens myth. Specifically this theory says that 13,000 years ago there was a movement by the

³⁰ Ann Chowning, *Raven Myths in Northwestern North America and Northeastern Asia*, *Arctic Anthropology*, Vol. 1, No. 1 (1962), University of Wisconsin Press, (p. 2)

³¹ <http://ows.edb.utexas.edu/site/hight-kreitman/land-bridge-theory>, Excerpt from Pan-American Dreams, Accessed 4/27/13

ancestors of modern day *Homo sapien* from the Asian continent to the North American continent by means of a land bridge. While there could absolutely be a connection between these cultures and the native cultures of the 18th and 19th centuries, these would be thin. The most pressing reason for this is simply the changes that we have observed in cultures over the past years. The cultures of the native tribes are vastly different from what they were even 100 years ago. While the religions are remembered, they are not often practiced. If this kind of cultural shift can occur in such a short amount of time, then it seems foolish to assume that the native cultures in the 18th and 19th centuries would bear any resemblance, culturally or geographically, to the tribes that crossed the land bridge 13,000 years prior. The core concepts of a hunter/gatherer society may have remained, but the traditions would have changed over that amount of time.

One of the more interesting aspects of all of these myths is the way that the human being and the animal are oftentimes interwoven to the point where they are interchangeable. This is, of course, a way to make the storytelling more interesting, but it also speaks to the perception of animals by the native tribes. When ravens marries a woman in a myth this is not some sort of complicated symbolism, but rather it is a way of showing the innate way that the natural world is tied to their society. Because the animals that the Native Americans would observe had such distinct relationships and personalities it is understandable why a character in a story would be assigned an animal rather than some arbitrary human being. With this being said it is also important to note the sense of cultural superiority that came out in the recording of these myths and folktales. In this specific context there is a pervading sense that these myths were seen as fun stories to tell rather than a serious cultural records. Even if the stories were recorded

without any kind of racism or disrespect intended, the commentary and the makeup of the books often point to a sense of superiority.

Writers acknowledge the importance of these stories yet look down on the cultures that use them as a belief system. One of the most revealing books that deal with this idea is the study of Nagualism by Daniel Brinton, an ethnologist in the late 19th century. “In a recent dictionary of the Spanish of Mexico *nagual* is defined as ‘a witch, a word used to frighten children and make them behave’”³². In reality the nagual was not a frightful figure, but rather had started as a human being who could transform into an animal. While this could be used for evil, it was not strictly a word or concept meant to inspire trepidation. The European settlers took this concept and changed the meaning. They could not get rid of it because of the importance that it held, but as Brinton notes in his book they turned it diabolical. They were diminishing the importance, but they were changing the meaning of the word. This would stay true throughout the settler’s interactions with native cultures; the meaning would change from religion to folktale, stories meant to inspire curiosity but of no pertinent significance.

Daniel Brinton describes his work as looking to answer “universally interesting questions that I attempt to solve by an analysis of the simple faiths of a savage race”³³. This kind of viewpoint makes it difficult to determine how accurate these kinds of myths are being transcribed. That is not to say that the core concept or themes of the stories are changed, but rather that there is an underlying sense of superiority by the majority of the writers that influenced the way that they interpret some of the myths actual meanings.

³² Brinton, Daniel G. (Daniel Garrison), *Nagualism: A study in native American folk-lore and history*, Philadelphia, MacCalla & Company, Printers, 1894 (p. 58)

³³ Brinton, Daniel G. (Daniel Garrison), *The myths of the new world; a treatise on the symbolism and mythology of the red race of America* (preface)

The idea that the natural world is to be interacted with in a symbiotic way was rare throughout Western culture at this time period. In fact, one of the hallmarks of this era was “sweeping social changes, including the growth of cities”³⁴. This focus on industry and expansion both geographically and technologically was at opposition with the native view on preservation and respect of the natural world. This kind of cultural separation between the western European settlers and the native tribes would shape the interactions between the two for many years.

Ravens were a particularly interesting subject because the importance that was put on it by the Native tribes was in no way matched by the settlers. The cultural clashes mean that ravens is important to the history of the Native American tribes but fails to come across due to the lack of objective study during this period. One of the most interesting accounts of the totemic importance of ravens in Native American culture comes from Lewis and Clark during their exploration to the Pacific. When describing the appearance of officers of the tribe they state “their distinguishing mark is a collection of two or three raven skins fixed to the girdle behind their back in such a way, that the tails stick out horizontally from the body. On his head too is a raven skin split into two parts, and tied so as to let the beak project from the forehead”³⁵. This officer is charged with maintaining order and can, if the need arises, discipline the chief of the tribe so long as he

³⁴ Industrial Revolution. *Encyclopedia Britannica. Encyclopedia Britannica Online Academic Edition.* Encyclopædia Britannica Inc., 2013. Web. Accessed 4/27/13
<http://www.britannica.com/EBchecked/topic/287086/Industrial-Revolution>>

³⁵ Lewis, Meriwether & Clark, William, *History of the expedition under the command of Captains Lewis and Clark, to the sources of the Missouri: thence across the Rocky Mountains and down the river Columbia to the Pacific Ocean: performed during the years 1804-5-6: by order of the government of the United States, prepared for the press by Paul Allen, Esquire, Vol 1.* 1814 (p. 139)

Image Courtesy of: <http://www.artflakes.com/en/products/a-bellacoola-woman-wears-a-raven-headaddress-emblem-of-her-klan>

has committed a wrong. They seem too feared by the tribesmen, given Lewis and Clark's account. This image of the officer adorned in raven skins is an interesting cultural clue as to the mythic importance of ravens as an animal associated with power. This comes from the myth that ravens were the bird that created the world by stealing the box containing the sun. He released the box and gave light to the world, in the process being scorched black. Ravens is, in this case, "Prometheus-like, [bringing] fire from heaven, and [saving the humans] from cold"³⁶. This kind of mythology, creation mythology, is one of the most affirmative surrounding ravens and its importance in the creation of order. The officers and members of the tribes with authority above the chief were often festooned with raven imagery.

While original images of the native's raven attire are scarce, there are several pictures and artifacts that have survived. Figure 4 shows a raven mask that is attributed to the tribes in the Pacific Northwest and shows what a raven image may have looked like when it was worn. However, ravens was iconic not only in the stories, but was also very popular in the artwork and architecture that existed in the Pacific Northwest. The most common image that is associated with the native artwork is the totem pole. Totem poles were used in much the same way as the classical triumphal columns. They told a story through images and characters engraved onto the pole. Figure 2 is an example of a story involving a raven wherein a raven is swallowed by a whale and then escapes. There is clearly the image of a whale and a raven on the totem pole, signifying the important characters in the story. While the details may be left out, the totem poles served as a concrete reminder of the animals and characters in the stories. Figure 3 depicts another,

³⁶ Brinton, Daniel G. (Daniel Garrison), *The myths of the new world; a treatise on the symbolism and mythology of the red race of America*, New York, Leypoldt and Holt, 1868 (p. 205)

as yet unknown, story that culminates in ravens. This totem pole brings up another aspect of this kind of artwork in that ravens were usually depicted on the top. Whether this was an aesthetic choice, a matter of principle, a plot device, or a factor of the animals importance seems to vary. The point is that ravens would have been seen and associated with the pinnacle of the artwork. It stands above the other animals in such a way as to make it visually superior. In addition to ravens' appearance in totem poles, its likeness was also incorporated into the architecture of the native villages. Figure 1 shows that the house poles of the chief (the most important member of the tribe) were shaped as ravens. These would have been a very large and noticeable feature to the house, centrally located and impressive. It is clear the size of these poles given the person seen standing in front of it. This choice of ravens not only affirms the important role of the animal in the culture, but also the way that it was seen as an animal with power. In the same way that the officer wore raven skins, the chief had adorned his house with the image of ravens so that he was associated with its power. These images are only a few of the examples of ravens architecture and art that has come out of the Pacific Northwest but they show the most prominent ways in that ravens was used in the art of the native tribes.

Ravens are not only seen as the creator of the world in Native American myths, but it is often attributed to the ancestry of all the people of the tribe. This gives ravens the same kind of religious significance as Adam in the Bible. The Athaspaca tribe along with much of the Pacific Northwest believes that their ancestry is traced directly to the original raven. It is described as "a mighty bird, whose eyes were fire, whose glances were lightening, and the clapping of whose wings was thunder. On his descent to the

ocean, the earth instantly rose, and remained on the surface of the water”³⁷. This kind of narrative is important because it holds considerable resemblance to the ways that the Europeans would view the creation of the world. While it is not God in six days, it is still an omnipotent being that conjures forth the land from water and creates animals to inhabit it. Brinton draws comparisons to various stories in the Bible, but the comparison between ravens in this story and ravens in other stories, from the same region, is also compelling. The same animal is seen as an omnipotent, all powerful creator of the universe and sire to mankind, and then he is seen as getting killed by the bald eagle. This is where the ecology takes precedence over the myth’s common interpretation of ravens. Ravens are one of, if not the most important character in many of the tribe’s folktales. It is marked by its ability to find a way out of any situation or to take what it wants by use of intellect. However, in the tale about the birds fighting it is easily struck down by the eagle. This would show that the ecology of ravens, in this case the fact that it was commonly preyed upon by larger birds of prey, was individually more important than having a character in the myths that strayed from the actual behavior of the bird. If ravens was to have bested the bald eagle in combat there would have been a break in the observable ecology represented in the mythology. The continuity lies in the strict adherence to the ecology of the animal and describing its behavior in terms of cultural tradition. Because ravens are eaten by the eagle in the real world, it is defeated by the bald eagle in this tale.

The cultural practices of many of the tribes were held together by the tribesmen and women themselves and endeavored to stay constant, but there are examples of the

³⁷ Brinton, Daniel G. (Daniel Garrison), *The myths of the new world; a treatise on the symbolism and mythology of the red race of America*, New York, Leypoldt and Holt, 1868 (p. 196)

ways in that the advent of the “white man” changed the ways that things such as myths were told. For example, one myth states “the houses in that country were like white men’s houses, and the people had plenty of horses, and metal”³⁸. This minor interjection highlights the fact that the influence and presence of the settlers was enough to change the mythology of the tribe. This is not a large interjection, nor does it alter the plot of the myth, but it is one of the ways in that settlers pushed their way into the mythology. This speaks to the fluidity of the oral tradition. This specific instance shows that, in order to keep the myth current the storyteller had incorporated more of what the everyday person hearing the story would have seen. Western influence had failed to alter the meaning of the myth in the same way it had with *nagual* but it still worked its way into a story that would have existed for a long period. For the majority of the myths there is this kind of Western influence that is rooted in the details. These kind of changes, in the details and nuances in the story, would suggest that European influence did not have the same goal as it did in Mexico. Instead of changing the native people, the settlers were happy to simply move them to make room for their settlements. This would account for the ways that the European influence would alter the setting of the story more than the actual plot line. With this influence came inevitability of cultural clashes around things that were previously experienced by the two. In terms of the natural world, ravens were one such similarity.

Ravens seem to be included in the texts of the settlers as more of a passing thought than one of actual importance and interest. They do seem to hold a poetic significance for the settlers, as per Audubon’s description of his evening attire “like a

³⁸ Teit, James Alexander, *Traditions of the Thompson River Indians of British Columbia ... collected and annotated by James Teit, with introduction by F. Boas* (p. 89)

mournful Raven”³⁹. This, in addition to works like Poe’s poem *Ravens* allow for the comparison between the western view of ravens and the native view. Western interpretation of ravens is marked by the observed activity of ravens, just as is the Native Americans. However, the majority of the images surrounding ravens were images that were rooted in battle. Ravens were seen as bad omens because of their behavior of eating the dead following a battle. Ravens came to be associated with death and mourning in the European context, and as such this view of ravens was transported to North America.

One of the most common myths surrounding ravens from the Western culture has to do with Norse mythology. The Norse gods were each assigned a role, as is common with most western traditions. Odin was the king of the Norse gods; he was the wisest and often seen as a traveler. On top of this he was the Norse god of war. “In skaldic verse, battle may be ‘the storm of Odin’; a sword ‘the fire of Odin’ ...or blood the special liquid of Odin’s bird, (see fig. 5) a raven, picking at human carrion on the battlefield)⁴⁰. It is clear to see from this description why ravens would not be seen in the same light by western settlers and Native Americans. Although this pertains specifically to the Norse, this kind of imagery was prevalent throughout most European cultures. The people of North America would have certainly seen ravens eating carrion, and more than likely they would have seen it eat people who had died however there is no record of ravens ever being associated with death in this same way. There could be multiple reasons for this, but the most likely is that there was no particular significance attached to human corpses. On a broader scale than the Norse myths the Bible states “You shall regard them as detestable; you shall not eat any of their flesh, and you shall detest their carcasses.

³⁹ Audubon, Maria R. *Audubon and his journals, Vol. I...* (p. 254)

⁴⁰ O’Donoghue, Heather, *From Asgard to Valhalla: the remarkable history of the Norse myths*, London, [Eng.] ; New York : I. B. Tauris, 2008, c2007 (p. 33)

Everything in the waters that has not fins and scales is detestable to you. “And these you shall detest among the birds; they shall not be eaten; they are detestable: the eagle, the bearded vulture, the black vulture, the kite, the falcon of any kind, every raven of any kind”⁴¹. This is a direct contradiction to the native view of raven’s behavior that was not seen as desecration, but rather a natural act. Ravens was seen eating deer and other wild animals in the same way it ate human corpses, so the association was not with death but rather with a continuity of behavior. The European’s saw ravens and crows descend on the dead as an affront to the peace and a sign that the bird lived off of death. The association was inherent for them because they did not connect ravens to the larger picture and the ecology in the same way as the native tribes of North America.

The clash between the native cultures and the settlers often was based around the religious differences. Westerners viewed many of the tribe’s customs as diabolical. “They also applied the words *puz* and *naual* to certain trees, rocks and other inanimate objects, whence the Devil used to speak to them”⁴². Meetings and prayers by the native people were often seen as Witches Sabbaths, furthering the view both of savagery but also of superiority, both morally and intellectually, by the Europeans. What is missing in this comparison of European and native views on religion and culture is the basic difference between their views of nature. Europeans were, especially at this point of western expansion in North America, focused on conquering nature. There was a desire to take control of the wild, to tame it and then civilize it to the point where settlers could live off of the land insomuch as it served a goal of creating towns and cities. Especially as Industry became more and more prevalent worldwide there was an escalating need for

⁴¹ Leviticus 11:11-15

⁴² Brinton, Daniel G. (Daniel Garrison), *Nagualism. A study in native American folk-lore and history*, Philadelphia, MacCalla & Company, Printers, 1894 (p. 23)

more natural resources and more land. Nature was not a part of the culture, but rather it was an obstacle or resource to be used. The native people's view of nature was markedly different. As stated earlier, the tribes worked with the land in a symbiotic relationship in order to gather enough for sustenance but also respecting the various aspects of nature. This manifests in this case in the difference between ravens in European literature and native culture. One of the clearest examples that I can give of how raven's image changed is Poe's poem. In *Ravens*, the bird is seen as an omen of doom, frightening initially but in the end it is simply a tool used to further the story. In native mythology ravens would not be a plot device, but it is an actual character meant to espouse a specific set of traits. Ravens moves from a sense of belonging and inclusivity to a sense of utility in European stories. Ravens is one example of how the natural world is understood and channeled in Native American mythology and culture whereas it is brushed aside as the settlers begin taking over areas farther and farther west.

While there is a large amount of study done of Native American myths and the personification of animals, there has been little recent study about the ways that ecology was used in the making of these characters. One of the more intriguing studies has been done by Ann Chowning. Ann is an anthropologist who worked primarily in the area around Alaska, extending into Northern Asia and down into the Seattle area. Her study entitled *Raven Myths in Northwestern North America and Northeastern Asia*. This work, that I have previously referenced, was important because of its ability to bring together raven myths from all over this area and find the similarities and/or differences in them. She states "the most notable similarity was the presence and importance in both areas of a

group of tales about a character called Raven”⁴³. She continues on to argue that the findings that were published by Boas and his contemporaries were erroneous because of their singularly focused approach. That is to say, Chowning, along with many more modern academics, find fault in Jochelson (a contemporary anthropologist of Boas) stating “because the Indians have exerted a very strong influence on the folk-lore of the Alaskan Eskimo, and a large part of the episodes of the latter cannot be considered as genuine Eskimo elements”⁴⁴. Mythology involving ravens must have traveled around the Pacific Northwest and Asiatic Northeast. This is important to my research because the spread of ravens myth would have to incorporate the different ways it’s ecology was observed. This was not a focus of the arguments at this point, but this source gives hints as to the ways it manifested. As stated previously, the Chukchee saw ravens as a trickster with magical powers whereas the people of Alaska and Northwest Canada saw him as a creator god. From the argument made by Chowning of a flow of raven myths from the Eskimo’s to the people of Northeast Asia it can be inferred that many of the different personalities could be the result of a collection of the different myths. That is to say, ravens’ role in the Chukchee culture could have been based upon their observation of its intelligence and an interpretation that this would make it a trickster character. However, the same kind of intelligence as observed by the Eskimo’s would have made ravens an ideal candidate for their ultimate creator: a bird that was able to steal the sun and give life to the world. While Chowning’s paper does not deal with the ecological aspects of these distinctions, she does provide a framework for explaining why the same creature could be seen in such vastly different lights.

⁴³ Chowning, 1962 (p. 1)

⁴⁴ Chowning, 1962 (p. 2-3)

In terms of the observable ecology of ravens, one of the more recent studies published by Simone Pika and Thomas Bugnyar states that ravens are able to communicate via gestures, much the same way as humans. This would “[make] the birds the only non-primate confirmed as using deictic gestures to communicate”⁴⁵. This is a very interesting aspect to ravens that had been previously unstudied. The fact that these birds are able to communicate on the same level as human beings and chimpanzees puts them on an intelligence level far beyond any other wild animal the native tribes would have encountered, being able to not only solve problems in a quick manner, but also to communicate to its group members in an efficient manner. It is easy to see how, with this kind of coordination and behavioral dynamics, ravens would have been placed above most other birds by native peoples. One example of problem solving is a study done to see if ravens can get at food by raising water levels. In order to reach the food, ravens have to drop a certain number of stones into a tube of water. Once the stones are all inside, they will be able to get to the food.⁴⁶ Amazingly, ravens are able to see the problem, identify the solution, and get to the food fairly quickly. Although ravens were trained, their ability to recognize a problem and then solve it is still impressive. It is, again, easy to see why this bird could be seen as a clever trickster given its ability to steal food in a variety of ways, as well as a magical being capable of extraordinary feats. Either interpretation has to directly correlate to the intelligence and problem solving skills that would have been seen by the native people.

Ravens is obviously singled out because of its intelligence, but one question pertaining to its role in mythology is why ravens, and the other birds prevalent in the

⁴⁵ Jeff Richardson, http://www.newsminer.com/article_a5663fec-92d2-57c6-b57c-743b4adf4194.html, 2011, Accessed 4/16/13

⁴⁶ <http://www.youtube.com/watch?v=lrYPm6DD44M>, BBC Worldwide, Accessed 4/27/13

tales, are given such precedence over the smaller birds. As we can see today, robins and blue jays are a more common sight than a bald eagle or a raven, so why were these birds glossed over in the making of Native American myths? The first answer is inherent in the question. Because the smaller, flocking birds were so common to the tribes, it is understandable that they would not hold the same mystery as the larger, less common birds. Another possible solution could be that the smaller birds simply did not have the charisma and personalities that the larger birds had or were attributed. Either of these could be correct, but again Chowning's article offers another solution. She states "tribes who lack ravens cycle have instead cycles centering around the activities of Coyote, Blue Jay, and Mink"⁴⁷. This would serve to say that the smaller birds, while not as prolific, do have their own place in the mythology of the Native Americans. However, the birds such as the blue jay and the swallow are not as interesting to study as something as grand as ravens or the bald eagle. This being said, the Native Americans were, as has been stated, extremely in tune with their environment and would have obviously seen the importance of the smaller birds and given them personalities. Given the breadth of Native American myths and their subjects it is clear that birds had to play a role in many of them. Small birds must have been placed in a hierarchy, as is evident in the myth about the fighting of the birds. This hierarchy would have been based around the observable ecology, as was almost every aspect of Native American culture. Because the smaller birds were not seen as exerting any real influence on the larger birds, with the exception of serving as a snack, they would have been placed nearer the bottom. Mythology rarely focuses on the bottom portion of the characters, instead choosing to give prominence to the winners, the characters that move above the masses. Small birds absolutely had a role in Native

⁴⁷ Chowning, 1962, (p. 2)

American mythology, but because ravens were placed above them both due to its size and intelligence it was given more attention. The songbirds, the sparrows and the robins, would have been seen as minor characters that introduced a story or provided some change so that the larger, more defined animals could continue. Ravens were not known for physically intimidating other birds, in the myths or the ecology. Therefore its placement in the hierarchy cannot be based around the same kind of warlike characteristics that the bald eagle shows. However, despite its apparent lack of physical dominance it still appears in the myths as a primary character, highlighting the importance of its intellect.

The current academic studies on ravens have been increasingly situated on its universal perception across multiple native tribes. The singular way that it is portrayed indicates to scholars that there must have been some cross cultural mixing around the Northwest of America and the Northeast of Asia. However, little of this scholarly research chooses to focus on the reasons behind this perception, namely that of the Native American ties to the environment that they live in. Ravens were given similar personas by multiple tribes both because of cultural interaction as well as the ways that it behaved across cultural boundaries. The ecology of ravens does not change based on the tribal parameters that it is living in. Instead, ravens behaves in a set pattern, existing in isolation or, at least, in small groups. It shows incredible intelligence and is exceptionally efficient at solving new problems that are set before it. While this observable ecology has been well documented by the scientific community of this day, it is clear that it was not lost on the tribes back then. Raven's attributes are a convergence of the ways that the native tribes interacted with nature and the ways that native tribes

interacted with each other. There was a recognizable trait throughout the description of ravens in every tribe, and based on the recognition the tribes would have adopted new aspects of ravens into their culture. There was still a large amount of diversity, but the observable ecology of ravens serves to create a coalescing point between all of these arguments.

From Spears to Guns

Hunting and the Decline of Grizzly Bears in 19th Century Pacific Northwest

Grizzly bear, or Yukon bear, (*Ursos arctos*) is one of the most fearsome predators in the Pacific Northwest. This animal has a very complex, oftentimes personal relationship with the human beings in the stories of the tribes. Because of its size, reputation, and feeding habits this was an animal that the indigenous tribes would come into contact with on a fairly frequent basis, especially prior to the western influence. While the role of grizzly bear does vary from outright hostile to a much more gentle and accepting individual, there are several consistencies throughout all of the stories that incorporate this figure. Mainly, this is an animal that focuses almost exclusively on hunting or foraging for its food. This comes out in the many ways in that the indigenous tribes either fight or trick the bear out of taking their catch. In a much more violent manner, grizzly bears are often seen as animals capable of swift and gory deaths for the human beings. Whether they are being eaten or simply mauled, human beings invariably die when they come into close conflict with these animals. That being said, there is always a sense of respect for grizzly bear throughout the majority of the early stories. This is not simply fear, but recognition of the ways in that this animal behaved and the necessity of this kind of apex predator (capable of taking down moose) in an ecosystem.

Grizzly bear population decline has been intense over the course of the past 180 years. While there are still populations in the Pacific Northwest, they have lost an immense amount of their original area. Grizzly bear prefers habitat that is “open areas such as tundra, alpine meadows, and coastlines. Historically, they were common on the

Great Plains prior to the arrival of European settlers”⁴⁸. This means that the wide open expanses of the tundra ecosystem would have been ideal for large populations of grizzly bears in the Pacific Northwest. They can also live in forested areas, due to the increased hunting opportunity for larger game, and so almost all of the major landmass in the Pacific Northwest would have been ideal for them. Because of the abundance of biomass that grizzly bear can eat, the Pacific Northwest offered a habitat able to sustain large numbers of these immense animals, often weighing up to one thousand pounds, in a somewhat tighter proximity than they would be able to live elsewhere. Even though these animals were large, they were still able to hunt extremely effectively. They could “kill a cow with one blow, outrun a horse, out swim an Olympian, and drag a dead elk uphill”⁴⁹. This kind of extreme power and speed in an animal makes it clear why they would be so much in the forefront of the indigenous tribe’s stories and culture.

One of the key parts of grizzly bears ability to survive in an environment such as the Pacific Northwest is that it has no natural predators in the ecosystem. Once it has reached a sexually mature age it is already larger than any other potential threat. While wolves could pose a threat to the young bears if they were on their own, they are unable to do anything because the mother looks after her young until they are able to fend for themselves. The babies become independent at around three years old and are all sexually mature at four years old⁵⁰. These cubs will grow quickly and have relatively little threat from the outside world. Only two or three cubs are born at any one time because there is such careful investment by the mother to make sure that they all reach sexual maturity and are able to pass on their genes. Unlike salmon that creates thousands

⁴⁸ http://animaldiversity.ummz.umich.edu/accounts/Ursus_arctos/

⁴⁹ http://animaldiversity.ummz.umich.edu/accounts/Ursus_arctos/

⁵⁰ http://animaldiversity.ummz.umich.edu/accounts/Ursus_arctos/

of offspring in hopes that at least one will survive, grizzly bear makes sure that all of her few cubs are able to fend for themselves before leaving their side.

Once able to live independently, grizzly bears behave in much known patterns. They hunt during the morning or the evening since that is when the most prey are out, but beyond that time they are known to hide in forests or brush to avoid any unnecessary encounter that would force them to burn some of their precious energy. Although rare, one of the most dangerous encounters would be with another bear, since that is the only animal capable of posing a threat to an adult grizzly bear. However, while there are certainly home ranges there is little evidence of fighting between grizzly bears, especially in terms of territory. The bears do not interact except for the care given to the young, meaning that they do not compete for resources so long as there is little interference from the human world. These home ranges often stretch over “on average between 73 and 414 sq km, with male ranges nearly 7 times greater than female ranges”⁵¹. Within these home ranges there is a large diversity of food, and grizzly bear makes use of it all. While its primary diet depends on where it lives, most bears will feed largely on plants and fruits and nuts throughout most of the year. These are consumed in immense quantities to make up for their lack of caloric value to the bear, but they are always readily available when looked for. Grizzly bears are known to hunt for “moose, elk, mountain sheep, and mountain goats. Occasionally black bears are preyed upon. In Alaska, brown bears have been observed to eat carrion and occasionally capture young calves of caribou and moose. Brown bears have also been observed to feed on vulnerable populations of

⁵¹ http://animaldiversity.ummz.umich.edu/accounts/Ursus_arctos/

breeding salmon in the summer in these areas”⁵². These foods are harder to obtain but have a much higher value, making them hugely important for the bears in the area.

The increased industrialization of hunting and fishing practices meant that an unstable number of animals were taken out of the environment. Once a certain point is hit then there is a total and abrupt decline of that particular species in a habitat until they are completely removed. This is most true in my research to grizzly Bear and its decimation following the introduction of Western hunting methods. This led to shifts in the environment itself and, as a result, a subtle yet noticeable change in the stories and how the people in them interact with the animals. While grizzly Bear is certainly the most drastic of the population changes it is by no means the only animal affected by the introduction of Westerners. Salmon, the most valuable of the animals as a food source and the most commonly mentioned animal in the readings has also shown a rapid decline due to several factors. Both of these animals showed population declines due almost solely to European influence and so they are vital to my research and how it will show change with Western influence.

Grizzly Bear is an extremely complex figure throughout the stories of the tribes of the Pacific Northwest. In many respects it is simply a gentle animal that fishes and hunts for various prey alongside humans. In several instances it is even seen interacting with humans in a peaceful and harmonious way. However, more often than not this kind of gentleness is balanced by violence and an ability to kill in a way much swifter than any other animal mentioned. Grizzly Bear is seen as temperamental and will go from friendly to killer after a fairly minor incident such as a sideways comment or some other slight. Alongside the implications of violence and power is the respect that the tribes had for this

⁵² http://animaldiversity.ummz.umich.edu/accounts/Ursus_arctos/

animal. It steals fish and other activities that harm the people, yet it always gets away with it because there is very little they can do to stop such a large creature short of an elaborate ruse. This all changed markedly once the influence of Western hunting methods was introduced. Grizzly Bear immediately became less of a threat with the induction of the Buffalo gun. This was a gun that shot up to a .68 caliber round effective until 400 yards. This kind of technology meant that a Grizzly Bear could be brought down by a single shot before it even knew that there was a hunter in the area. This was combined with the already prevalent notion that this was a dangerous animal, making the pelt and trophies extremely valuable. The hunting of grizzly Bear became widespread after the Civil War and as westerners moved farther into the West. This coincided with several anthropologists marking off stories that dealt less cautiously with Grizzly Bears.

In addition to the increases in hunting effectiveness there was a massive increase in the logging industry. This was almost more fatal to the bears than the hunting because it deprived them of essential habitat, greatly reducing the sustainable population numbers for a certain area. Grizzly Bears are primarily solitary creatures and they require a very large area, or territory, in order to sustain themselves. There are areas where they gather such as streams or other plentiful hunting grounds, but for the majority of their time they actively guard their own territory. With the introduction of Western logging practices and clear cutting much of the late growth forests that the bears prefer were taken down. This meant more that much of the plants and prey that the Bears depended on for survival were killed off and unable to compete during the regrowth period. The increasing lack of resources meant that Grizzly Bears were pushed closer together and competing for the same resources. This led to greater numbers of Bears dying from lack of resources. The

decrease in their numbers meant that the value of their pelts went up again and made the hunting industry more and more prevalent. The group Conservation Northwest did a study that detailed the decline in Grizzly Bear population over the past 100 years. Since the turn of the 20th century there has been a loss of 98 percent of Grizzly bear territory and population⁵³. There used to be around 100,000 bears (at a high estimate) and that has gone down to about 1,100 bears focused throughout Alaska and Western Canada. This is the kind of decline that would have an effect on the behavior of the bears as well as how they are portrayed in the stories of the Native Americans. The remaining populations are focused away from people as any bears coming within the boundaries of human influence either do not have the resources or are killed out of fear. This extremely well documented decline has meant that the loss of Grizzly populations can be easily coordinated with the gradually shifting representations of the animals in the stories.

The Ecosystem of the Pacific Northwest relies heavily on cold weather adaptations by its inhabitants. This is a seasonal ecosystem with long, cold winters and warmer summers when the majority of feeding goes on. Because of the seasonality of the region there can be a much wider variety of flora and fauna than would exist farther north. The ecology of the four animals that I am studying is a very good representation of the ways in that this diversity is manifested.

Grizzly Bear is the main predator in the area, especially since the decline of wolves in the area. Grizzly bears differ from wolves however, in their food choices. Grizzly bear feeds primarily on fish but have also been known to hunt down larger mammals such as moose and goats. Combined with this they will eat roots, tubers, berries, and almost anything that offer nutritious value. This is due to the fact that the

⁵³ <http://www.conservationnw.org/what-we-do/wildlife-habitat/grizzly-bear/grizzly-bear-history>

cold winter offers very little to no food so they are forced to store up as much as possible to survive the winter months. These bears are also very territorial and aggressive, attacking almost anything that they see as a threat. This would have been the most direct contact that humans would have had with them throughout this region.

Ravens are representative of the scavengers in the region. They prefer open areas near a water source, allowing them easy access to nutrition. Ravens eating habits, as a scavenger, rely on carrion and the bugs that live inside the flesh of a dead animal as sustenance. They also eat nuts and seeds that have fallen to the ground, but meat is their primary source of nutrition. These kind of eating habits mean that Ravens are able to find a food source almost anywhere throughout the habitat. In addition, they are able to find food during the winter when other animals begin to die off. The energy they expend hunting is also minimal, much less than any of the other animals because there is no chase and kill, merely flying and looking for dead animals. Although they do not hold the same splendor as the eagles, ravens would still have been seen as a resourceful animal by the tribes.

The Orca Whale is the one aquatic animal on the list and represents a predatory mammal that would have been abundant during the summer feeding season. Orcas spend the winter season all over the world breeding and preparing for the summer feeding season. Early on in the summer the seal population migrates towards the Alaskan coast following the fish. Orcas primarily eat seals so they follow these populations with the newborn whales in order to both teach them to hunt and to gain as much food mass. One of the most interesting hunting aspects to the Orca is its propensity to play with the food. When they have caught a seal they drag it out to sea and proceed to bat it through the air

with their tails. There is no reason for this behavior from a use perspective. The seals do not die during the display, but rather are stunned before being eaten. Another interesting hunting display from the Orcas is their act of beaching themselves in order to get the seals that are basking on the apparent safety of the beach. They have developed a way to return to the water, but it is still an act that is not seen from any other aquatically based animal. Both of these behaviors would have been fascinating for the tribes to have witnessed, both because of their uniqueness and the possible interpretations from a mythological standpoint.

In the myth, *Grizzly Bear* from the Tsimshian tribes there is abundant amounts of Grizzly Bear Ecology mixed in with some of the more classic elements of storytelling. The myth is structured so that three brothers leave their village in the middle of winter so that they can go hunting. Two of them find a Grizzly Bear in a hole under a tree but are killed by her when they approach. The third brother manages to fight the bear and she is so impressed that she decides to marry him. They live for a few months under the tree but then return to the village. Although initially scared, the villagers soon accept the man's new wife. There is a series of episodes where the bear helps the human wife to collect berries and other food items, which the villagers hesitantly accept. She also manages to empty salmon trap and give the contents to the chief of the tribe. Because of this another member of the tribe scolds her, jealous that she only gave salmon to the chief. Grizzly Bear grows angry and kills the man, realizing that she wants to return home in the process. As she returns home her husband tries to get her to stay but she grows frustrated and kills him too.

This myth highlights many of the persistent and obvious ecological traits of grizzly Bear. The animals are naturally omnivores, meaning that they eat both meat and plants. This is addressed as grizzly Bear helps to gather all manner of foods, from berries to salmon, as a way to help feed the tribe. These two foods, berries and salmon, also happen to be the two most popularly consumed foods by *Ursus arctos* and thus it is not surprising that they would be the two foods featured prominently in the myth. The other obvious connection here is that Grizzly Bears were also known to be man eaters. The beginning and the end of the myth highlight their dangerous nature, both due to their territoriality as well as their size and strength. Native tribesmen would have seen the bear and been wary of it, given its reputation. This myth makes it clear that the behavior of grizzly Bear was well known and respected among the people living in the same ecological systems.

Alongside this discussion and representation of grizzly Bear's aggressive and angry side is a very docile persona throughout the middle of the myth. During the period in between being antagonized grizzly Bear is able to maintain a very civil and helpful relationship with the tribe. She helps them gather food and sits with them for dinner. This persona, totally separate from the previous killer instinct that is seen when the first two brothers are killed, shows a much more subtle understanding of the bears behavior than simply a brute. The only time the bear actually kills anyone in this myth is when she is provoked; by the brothers in the beginning and by insults and nagging in the end. Without any provocation grizzly Bear is docile and even a productive member of the tribe, providing them with food. This speaks to grizzly Bear being a more or less docile animal, preferring to keep to themselves unless they are threatened. The myth shows the

subtlety of grizzly Bears behavioral ecology by engaging with both its killer side as well as it's much more relaxed and gentle side.

The personification of grizzly Bear is an interesting part of this myth. Grizzly Bear is a mother who abandons her cubs for an extended period of time in order to live with this man who she has just married. This is not in keeping with the behavioral ecology of grizzly Bear, seeing as how they will stay with their cubs for over two years until they are able to live independently. In addition grizzly Bear in the myth has a wide range of very strong emotions, mostly geared towards anger. Without very much provocation grizzly Bear is described as flying into an anger that always ends in someone getting killed. There is no mention of any other emotion coming from the Bear, alluding to the ways in that the Bear was seen by the Native peoples. Grizzly Bear was never seen as being happy or sad, simply angry or complacent. The bear in this myth has one moment of embarrassment when the man punches her, but there is no happiness at marriage, just what seems like a calm acceptance.

One of the smaller incidents, although very interesting, is a scene in that the man gives his child to grizzly Bear. This is shortly after she has brutally killed his two brothers and scared everyone in the village by her presence. Despite these warning signs, the man hands over his infant child upon request by Grizzly Bear. Surprisingly, Grizzly Bear does not eat the child; instead the infant immediately stops crying and falls asleep. This episode is the link between grizzly Bears maternal instincts in the wild and in the myth. The native people would have noticed the amount of time and effort that the mother Grizzly Bear would have put into her offspring. Even though the myth has the

mother bear abandoning her cubs on the mountain, she is still seen as being an excellent mother for this short period of time.

This understanding of grizzly Bear as a complex animal, in eating habits, temperament, and maternal instincts was one of the reasons that the native tribes differed from the settlers as they moved into the area. To the settlers, grizzly Bear represented a ferocious beast that was a prize object in hunting and fur trade. Because the beast was seen as a man killer it was encouraged that it was killed in order to save lives. Its size and temperament meant that it was rare that any European settlers would have come in with an open mind regarding the softer, gentler side of this animal. The Native tribes would have been one of the only sources of this kind of complex analysis of grizzly Bear until naturalists would enter the region years later. The mythology of the Tsimshian people, at least in this case, highlights the ways in that views about the animal itself would have been drastically altered by the introduction of settlers to the region. While the bear was seen as an omnivore and a gentle soul by the native people it was seen solely as a violent animal by the settlers.

This contradiction in views is one of the reasons why grizzly Bear was so widely hunted later into the 19th century. As they became valuable for the skins due to their being perceived as highly dangerous it became more common for native people to help in their hunting. This myth shows the danger inherent in these kinds of hunts, and why they were rare prior to Western influence. With the settlers came guns and the one sided view of the bear, not as a gentle, maternal, and protective animal but rather as a killer that needed to be controlled at any cause. Gone was the subtlety and the idea of anger

through provocation, replaced by a greed for money and fame that would spell disaster for grizzly population.

He asked Grizzly Bear to join him in catching Halibut, but grizzly Bear said he had no bait. Txa'msem replied, 'We will use our bodies as bait; we will use our testicles.'...Txa'msem pretended to cut off his penis and to tie it onto a hook for bait. Grizzly Bear saw the act but was afraid to do the same...the latter urged him saying, 'Go on, do the same!'...The Bear cut off his penis, and he fainted. When he felt that he was dying he made a rush at Txa'mesm, trying to kill him.⁵⁴

This is an excerpt from *Tsimshian Texts*, a collection of stories recorded by anthropologist Franz Boas. In this particular story grizzly Bear is seen as the victim of a trickster named Txa'msem. While this particular episode relays a few of the behavioral patterns of Grizzly Bears in the wild, but more importantly it humanizes the Bear in a way that is not often seen in the other stories about this animal. For example, grizzly is often seen interacting peaceably with humans, this is not out of the ordinary for the stories; however they are rarely seen using tools or other human specific implements. Rather, they are seen as fishing the way they would in the wild, with their paws, instead of fishing rods and hooks. In addition, grizzly Bear would not have often had the ability to catch and eat halibut since it does not swim as close to the surface as salmon. It requires a fishing pole in order to catch it, so in order to incorporate Grizzly bear into this story there had to be some alterations in the ecology. This does not mean that there was a total change; there is still a strong emphasis on fishing as a form of sustenance for the

⁵⁴ *Tsimshian Texts*, Franz Boas, 1902, Page 56-57

bear. Salmon comprise a large amount of the nutritional benefits for the bear in the wild, and extending this to halibut would not have been an irreparable flaw. In addition to the fishing there is the aggressive nature of the bear. It understands it has been tricked and attempts to kill Txa'msem but is unable due to the blood loss. This speaks to the extremely aggressive nature of the bears, especially when wounded or cornered.

One shocking aspect of this story is the fact that grizzly Bear is tricked into cutting off his own penis. Besides making every guy cringe, this act could have several interpretations. Outright, this is a horrifically stupid act, cutting off ones penis in order to use as bait to catch halibut. There is a plethora of bait around the area and in nature, such as worms and small fish. By incorporating this specific episode into the story it is clear that some sort of message is trying to be sent. The most obvious is that Grizzly Bear was not seen as particularly intelligent and is easily tricked into castration. But there is more going on here than simple shock value and deprecating commentary on Grizzly Bears intelligence. This episode could be showing the lengths to that the bears would go in order to ingest enough calories to survive the winter. Grizzly Bears hibernate through the winter months. In order that they do not starve, these bears are forced to intake massive amounts of food, of all varieties, leading up to this extended period of starvation. Because this caloric intake is so extensive and would have been easily observable to the tribes, it would not be a stretch to imagine that this story is speaking to the need for bears to get food, no matter what the cost. While this is an extreme example of sacrifice, in the end a little too extreme, grizzly Bear is shown as being very insistent when it comes to the gathering of food.

“Txa’msem went ashore and stepped up to the Bears wife...he told the female Grizzly Bear to swallow [] the hot stones. He said that the wives of those who do not catch anything must do so...the chieftaness trusted him. Txa’msem took up the stones with tongs. He told her to open her mouth and he put the hot stones into it. Then she tumbled about, and Txa’msem hit her all over while she was doing so until she was dead. He took the Bear that he had killed first out of the canoe. He cut him first, and then his wife. Both the bears were dead. He stayed there for many days eating.”⁵⁵

This episode is nearly as disturbing as the male bear cutting off his own penis and bleeding out into a canoe. It involves the murder and consuming of a spousal pair, albeit Grizzly bears, because Txa’msem is hungry. This could, again, be talking to the intelligence of grizzly Bears but it is probably focusing on the ways in that these animals would be hunted, if at all. Grizzly Bears are immense animals, and in order to hunt them the native tribes would have had to lay traps and make it impossible for the bears to get at them before they moved in for the kill. This is obviously an exaggeration of this kind of hunting technique, but it still shows the idea behind hunting such a dangerous animal. Obviously this would change in later years with the induction of guns and settlers into the area. With high powered, large caliber rifles there was no longer a need for immobilization before going in for the kill. The ranges and lethal power of a buffalo gun meant that this kind of elaborate skill in trickery and trapping would be replaced with accurate shots and stalking.

Much like many of the changes in perception of animals this change in the way of looking at grizzly bears is subtle. There is, of course, no outright statement that the bear

⁵⁵ *Tsimshian Texts*, Franz Boas, 1902, Page 57-58

is no longer feared because of its newfound vulnerability, and it is in this subtlety that much more insight can be gained into the ways in that the culture had changed. No tribe was willing to forsake their heritage and their connection to the land both physically and spiritually, yet they were willing to adapt in order to survive in an ever changing world of increased industrialization. While shooting bears meant that less and less of the warriors of the tribe had the scars that came from close contact, there was still a sense of wonder when it came to these animals. However, the stories belie a much more complex and troubled relationship with these animals following the introduction of firearms and hunting for sport or financial gain. The fur trade meant that grizzly bears became a commodity, along with the majority of the wildlife of the Pacific Northwest, and with this commoditization there was a need to balance tradition with sustenance.

Even though the buffalo gun and other modern firearms made hunting bears easier, they also required skill to use and, when mishandled, were still dangerous to the hunter. Killing bears without risk was also not a new concept. The indigenous tribes had traps that they could use in order to safely immobilize a bear before moving in for the kill. The idea behind the hunting of the bear with spears was a rite of passage in many ways. Battle scars from these hunts were seen as the marks of pride for the warriors who had managed to accomplish this task. This was not a task to be undertaken lightly, nor was it attempted often because of the lack of reward for the effort put out. Grizzly bears were not a good food source and more often than not they killed anyone who would get within striking distance. There was little reason to hunt them for food or any kind of sustenance habits, so the majority of these were in service to the men as opposed to the tribe. All of this points toward the increased hunting of grizzly bears being fueled by the

industrialization and commerce aspect rather than the increased ease with that they were killed.

Grizzly bears were hunted because they posed a financial risk to farmers and a financial gain to anyone who could turn in a pelt. The change in attitude of the indigenous tribes towards the grizzly bears was not caused because they suddenly lost any and all respect, but rather because they became the most effective implement for the settlers to hunt them down. Much like the salmon, the indigenous tribes intimately knew the habits and behaviors of the bears and so they were able to hunt the animals much more efficiently and effectively than the settlers. The bears were quickly wiped out, and their lack of numbers combined with their commercial value meant that the pervading culture turned towards simply a lack of emphasis on the bears. The stories involved animals that were seen and that the native peoples experienced regularly. With grizzly bear population decline there was less interaction and when there was it was specifically to hunt for the pelt. Grizzly bears did not lose their reputation simply because they could be shot from a distance, but because they were fading away and interacted with solely as a means to an end. This radical departure from the previous ways of treating these animals meant that the stories were altered to incorporate all aspects. Not only did the indigenous tribes see grizzly bears as less of a threat, the grizzly bears also changed their behavioral ecology, meaning that the stories themselves would have to change to reflect this. What the stories do not tell reflects the ways in that the grizzly bear faded away. Guns, fur trade, and a basic lack of chance to interact with the bears meant that the stories of the indigenous tribes would reflect a very different bear than those that pervaded the ecosystem before Europeanized involvement.

Conclusion

Over the course of study of indigenous North American tribes and their culture there is always an incredibly strong emphasis placed on the relationship that the cultures have with the natural world. Throughout this research project there has been an emphasis on detailing how intimacy with that the indigenous tribes observed the scientific behavior of animals and wove those characteristics into a spiritual understanding of the world. Much more than simply interacting with nature, the indigenous tribes of the Pacific Northwest had to understand the ways in that all aspects of the ecology fit together in order to survive cold winters and difficult living conditions. By analyzing the subtle, yet crucial ways in that every individual of a tribe understood the workings of one of the most densely packed biodiversity centers in the world it becomes clear that the understanding of nature extended far beyond the spiritual and was a necessity for life in this area of the world. With this understanding came a very unique perspective shift with the arrival of Europeanized settlers in terms of their effect on the environment. By changing the essential meaning of animals through commercialization, modernization, and ideological beliefs the settlers were able to alter the ways in that indigenous tribes interacted with the environment. The stories were based on observable interactions between animals and the world around them. By changing the actions, in practice and meaning, the settlers were able to fundamentally alter the perception of the environment by the indigenous tribes.

Throughout the stories of almost every indigenous tribe from the Pacific Northwest region there is continued and pointed references to Salmon. Salmon provided the lifeblood of almost every single tribe living throughout this region. They were highly

nutritious, plentiful, and predictable in their migrations making them easy to hunt and well worth the effort. The yearly runs of millions of tonnage of salmon meant that the tribes had to be familiar with the behavior of a variety of salmon species and how to catch them. Moreover, they had to know when to fish for optimal return as well as in a manner to guarantee continued and predictable runs of salmon for seasons to come. Because of its commonplace, yet crucially vital nature, salmon do not hold the same individual characteristics as bears or ravens. Instead, they often serve as the object of desire for all characters in a story and are used as life-giving plot points that are caught, stolen, hunted, given, and fought for in any number of ways. As the settlers moved in the salmon maintained its importance for the region, but in a remarkably different fashion. As the canneries moved in throughout the 19th century the salmon became the most lucrative inflow of wealth to the region. Instead of giving life to the people of the tribe it gave them wealth and power over other tribes in the modern era. With this increase in fishing came the decline of the salmon. Given the lack of understanding from the canneries about sustainable fishing practices they were able to push the numbers of salmon down drastically. Fishing for sustenance had been eliminated and the indigenous tribes were used as the primary form of labor for this overfishing process. This introduction of canneries meant that the stories started to move away from this idea of obtaining salmon at any cost and more towards the ways in that salmon was becoming the only source of life, or income, for the tribes. Salmon were always the single most important animal to the entire Pacific Northwest ecology and this did not change with the introduction of settlers. They did change from being a source of life to a source of money for the survival of the tribe.

Unlike salmon, ravens feature prominently as their own individual characters whenever they appear in the stories of the tribes in the area. Ravens are, almost universally, the same kind of character throughout all of the different tribes in the region. They are personified as a trickster and usually causing trouble for both humans and other animals. Additionally they are seen as a creator and the reason behind all life on earth. Raven stole the sun from an old chieftain and gave it to all of the people who were living in the darkness. This implies an understanding of basic life being governed by the sun, but also of the ways in that ravens used their intelligence. It has been scientifically shown that ravens are one of the smartest birds in the world, able to solve complex and multifaceted puzzles. The indigenous tribes recognized this ability of these birds to act in an intelligent manner and used this idea as the basis for their interpretation and personification in the stories. Unlike the tribes, the settlers were coming into the region with a drastically different view of ravens as an animal. Their views were governed by the ideas from European mythology and their own observations of how these kinds of birds, both crows and ravens, acted. For Europeans, these birds were associated almost exclusively with the concepts of death and war. Unlike the Pacific Northwest, there had been large scale battles waged across Europe for thousands of years. The aftermath of these was almost always the dead being eaten by these birds. In this way the Europeans were also basing their opinions on the observable ecology of the raven, yet they focused on the bird's diet as opposed to their intelligence. Edgar Allen Poe specifically shows the ways in that ravens were images of death and fear for the people moving into the Pacific Northwest. In this way, ravens are different from bears or salmon because the change comes from a cultural standpoint and a focus on different points of ecology rather than a

change to the environment. As settlers moved in the raven becomes a darker character in the stories. This is manifested in a greater malevolence from its tricks and more death following in their manipulation of people. While the tribes did not buy wholesale into this idea of ravens as animals of death, they do start to show more and more trepidation and wickedness associated with the animals in the stories.

Grizzly bears are another animal like the raven in that they are individual characters whenever they are represented in the stories. They have their own personality and ways of behaving that are, again, governed by how they act in the wild. Bears are always seen as hunting for food, whether that is with or in opposition to people. Inevitably conflict is ended by the bear killing and eating anything or anyone that gets in its way. The majesty of these animals and their dangerous demeanor is clearly articulated throughout the stories, and it becomes clear that these animals represented an important aspect of the life of these tribes, both physically and spiritually. Because of their size and temperament, grizzly bears were a very visible entity in the region, making it easier to see where they were and how they interacted with their environment. Despite mainly eating roots and berries, grizzly bears were known to kill large moose by themselves and were seen as an animal to be hunted at the peril of the warrior. Encountering a bear under any circumstance was inviting a violent death, but seeking them out for combat was one of the marks of respect among the tribes. The interesting part about the bear in the stories is that they always interact with the people, violently and otherwise. They were great prizes for a hunter, but they were also seen as the gentle parents and members of the ecosystem that they were. There was a respect for these creatures that kept them from being overhunted as well as thought of as more than simply killing machines. With the settlers

moving into the region the modernization in hunting and the fur trade meant that bears, like salmon, began to be valued from a commercial standpoint rather than for their roles in the ecosystem and everyday life of the tribe. With guns and traps, the bear lost much of the respect from the people who had been living there, manifesting in degradation in the myths recorded later. Instead of holding an esteemed role in the culture, grizzly bears became another way to make money using the hunting techniques the indigenous peoples already knew. In this way, grizzly bears lost their cultural meaning in the same way as the raven, through cultural change, but also through vast increases in hunting and modernization. There is a synthesis between the change in the salmon and the change in the raven that seems to define the change in the perception of grizzly bears over the course of time.

While there has been stabilization in the habitat loss and the over fishing that took place upon the arrival of settlers, there was still an irreparable shift in the stories and culture of the native tribes from that region. By tracking the ecological changes, coupled with the alterations in behavior and importance of animals in the stories it becomes clear just how fundamental this shift was. Details regarding the intimate knowledge of animals show the reader the ways in that the native tribes were affected by more than just resettlement. The indigenous people lived in conjunction with the ecology as a whole, and the influence of settlers and Europeanized culture meant that they had to fundamentally shift their perception both because of pressure from the outside as well as to accommodate the dramatic change in the actual ecology. The stories chosen reflect some of the more obvious synthesis, and outright change, in the ways animals were seen to act. By looking at the specific ecology of the animals in these stories and combining

them with a historical study in the tribes it becomes clear where the greatest impacts have been. Native people did not just have to adapt to live with Westerners, but they had to fundamentally change their culture. However, in this change we can see the real essence of the culture of the native tribes of the Pacific Northwest has stayed true. The tribes told their stories and based their characters on the ways they saw the animals acting in the wild. To remain true to the ways animals acted would be to betray this intimate connection to the land. The change reflects the historical intimacy that the people had with their land and the animals that they shared it with. If there was no change over time then that would speak to a fundamental inability of the people to recognize alterations in the ecology, something that would never have happened given the way the tribes interacted with nature. Even though this change brought on by European influence meant that the cultures and stories of the tribes would change, they further proved that they could survive and adapt throughout any and all drastic shifts in the environment, the culture, and the region as a whole.

Images

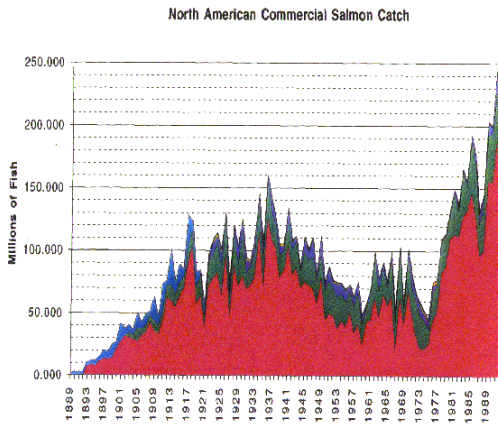


Fig 1. A graph detailing the tonnage of salmon catches annually from the expansion of canneries

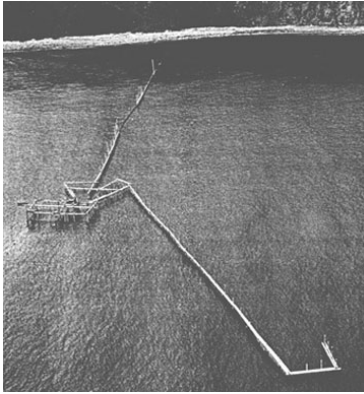


Fig 2. An example of a salmon trap like those used by Native Tribes before mass fishing operations by settlers

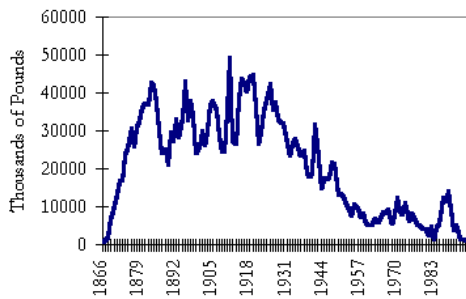


Fig 3. An example of the decline in fish populations due to over fishing before congressional oversight



Fig. 4⁵⁶ An example of the tribal artwork of the Haida and its ecological relevance (Raven Post)



Fig. 5⁵⁷ An example of the Totem Poles created by tribes in the Pacific Northwest. This particular pole details a story of a raven swallowed by a whale.

⁵⁶ Chief Skowl's Funeral; Niblack, Albert Parker, 1885 (ARTSTOR)

⁵⁷ Totem Pole North America, Alaska, c. 1880 (ARTSTOR)



Fig. 6⁵⁸ is an example of the heavy ecological focus in the artwork of the Native Tribes. This is an example of Tlingit artwork.



⁵⁸ Raven Pole, ARTSTOR

Fig. 7⁵⁹ is an example of the type of masks used in indigenous ceremony. Again, heavy focus on the animals and their interactions with the tribe and ecosystem.



Fig. 8⁶⁰ is an example of the European interpretation of animals. This is a picture of Odin, chief Norse God of War who had two Ravens as pets.

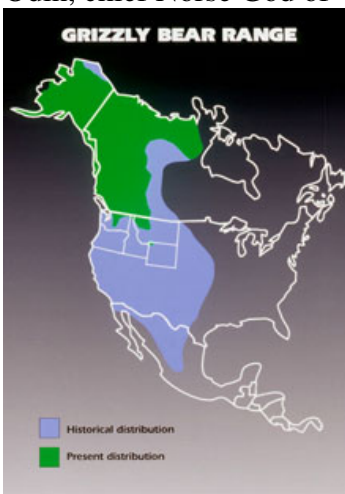


Fig. 9 is a visual of the total loss of habitat and population of grizzly bears because of Western influence.

⁵⁹ Mask of Raven Willie Seaweed, 20th Century (ARTSTOR)

⁶⁰ Image Courtesy of: http://en.wikipedia.org/wiki/File:Odin_hrafnar.jpg

Thesis Bibliography

Primary Sources

Frey, Rodney. *Stories That Make the World: Oral Literature of the Indian Peoples of the Inland Northwest as Told by Lawrence Aripa. Tom Yellowtail. and Other Elders.* Norman: U of Oklahoma. 1995. Print.

William R, Seaburg and Pamela T, Amoss. *Badger and Coyote were neighbors : Melville Jacobs on Northwest Indian myths and tales.* Corvallis. Or. : Oregon State University Press. 2000

Berry Judson, Katharine. *Myths and legends of the Pacific Northwest.* Lincoln : University of Nebraska Press. 1997

Paul M, Levitt & Elissa S, Guralnick. *How Raven found the daylight and other American Indian stories.* Boulder : University Press of Colorado. c2000

Brinton, Daniel G. (Daniel Garrison). *The myths of the new world; a treatise on the symbolism and mythology of the red race of America.* New York. Leypoldt and Holt. 1868.

Teit, James Alexander. *Traditions of the Thompson River Indians of British Columbia ... collected and annotated by James Teit. with introduction by F. Boas.* Boston. New York [etc.] For the American folk-lore society by Houghton. Mifflin and company. 1898.

Brinton, Daniel G. (Daniel Garrison). *Nagualism: A study in native American folk-lore and history.* Philadelphia. MacCalla & Company. Printers. 1894.

Boas, Franz. *The history of the American race.* New York : New York Academy of Sciences. 1912.

Boas, Franz. *Tsimshian Texts.* Washington. Govt. Print. Off.. 1902.

Fletcher, Alice C. *Indian story and song. from North America.* Boston. Small. Maynard & company. 1900.

Mathews, Cornelius. *The enchanted moccasins and other legends of the American Indians.* New York. Putnam. 1878.

Brinton, Daniel G.. *American hero-myths; a study in the native religions of the western continent.* Philadelphia. H. C. Watts. 1882.

Curtin, Jeremiah. *Creation myths of primitive America in relation to the religious history and mental development of mankind.* Boston. Little. Brown. 1898.

Secondary Sources

Steven C. Brown. *Native visions : evolution in northwest coast art from the eighteenth through the twentieth century*. Seattle : Seattle Art Museum in association with the University of Washington Press. c1998

Basso, Keith H. *Wisdom sits in Places: landscape and language among the Western Apache*. Albuquerque: University of New Mexico Press. 1996.

Various Authors. ed. Harkin, Michael and Lewis. David Rich. *Native Americans and the environment: perspectives on the ecological Indian*. Lincoln: University of Nebraska Press. c2007

Sturtevant, William C. *Handbook of North American Indians*. Washington. Smithsonian Institution. 1978

Wadewitz, Lissa K. *The Nature of Borders: Salmon. Boundaries. and Bandits on the Salish Sea*. Seattle. University of Washington Press. 2012

John Bierhorst. *The mythology of North America: with a new afterword*. New York : Morrow. 1985

Grumet, Robert Steven. *Native Americans of the northwest coast : a critical bibliography*. Bloomington : Published for the Newberry Library [by] Indiana University Press. c1979

Bierhost, John. *The mythology of North America : with a new afterword*. Oxford ; New York : Oxford University Press. 2002.

Vogel, Carole Garbuny. *Legends of landforms: Native American lore and the geology of the land*. Brookfield. Conn.: Millbrook Press. 1999.

Waldman, Carl. *Encyclopedia of Native American tribes / Carl Waldman; illustrations by Molly Braun*. New York. N.Y.: Facts on File. 1988.

Hirschfelder, Arlene B. *The encyclopedia of Native American Religions: an introduction / Arlene Hirschfelder. Paulette Molin*. New York : Facts on File. 1992.

Kronk, C. 2007. "Ursus americanus" (On-line). Animal Diversity Web. Accessed March 30. 2013 at http://animaldiversity.ummz.umich.edu/accounts/Ursus_americanus/

Ballenger L. 2002. "Ursus arctos" (On-line). Animal Diversity Web. Accessed March 30. 2013 at http://animaldiversity.ummz.umich.edu/accounts/Ursus_arctos/

Paper, Jordan D. *Native North American religious traditions: dancing for life*. Westport, Conn.: Praeger. 2007

Nelson, Richard K. *Make Prayers to the Raven: A Koyukon View of the Northern Forest*. Chicago: Chicago University Press. 1986.

Thrush, Coll-Peter. *Native Seattle: histories from the crossing-over place*. Seattle: University of Washington Press. 2007.

Coté, Charlotte. *Spirits of our Whaling Ancestors: Revitalizing Makah and Nuu-chah-nulth Traditions*. Seattle and London. University of Washington Press. 2010.

Paul M, Levitt & Elissa S, Guralnick. *How Raven found the daylight and other American Indian stories*. Boulder : University Press of Colorado. c2000

Katharine Berry Judson. *Myths and legends of the Pacific Northwest*. Lincoln : University of Nebraska Press. 1997

William R. Seaburg and Pamela T. Amoss. *Badger and Coyote were neighbors : Melville Jacobs on Northwest Indian myths and tales*. Corvallis. Or. : Oregon State University Press. 2000

Wright. Robin K. and Bunn-Marcuse. Kathryn. *In the Spirit of the Ancestors: Contemporary Northwest coast art at the Burke Museum*. Seattle. University of Washington Press. 2013

Frey. Rodney. *Stories that make the world: Oral Literature of the Indian peoples of the Inland Northwest as told by Lawrence Aripa, Tom Yellowtail, and other elders*. Norman. University of Oklahoma Press. 1995

Apostol, Dean and Sinclair. Maria; *Restoring the Pacific Northwest*; Washington DC; Island Press; 2006

Wickwire, Wendy; *Grizzly Gave them Song: James Teit and Franz Boas interpret twin ritual in aboriginal British Columbia*; American Indian Quarterly. 2001. Vol. 25 Issue 3

Hegeman, Susan; *Franz Boas and Professional Anthropology: On Mapping the Borders of Modern*; University of Florida Press. 1998

Tomalin, Marcus; *'No connection or cooperation'? Missionaries and anthropologists on the Pacific Northwest Coast*. Journal of the Royal Anthropological Institute. Cambridge; 2009

Schoonmaker, Peter K. and von Hagen, Bettina and Wolf, Edward C.; *Rain Forests of Home*. Washington DC; Island Press 1997

Various Authors. ed. Harkin, Michael and Lewis. David Rich. *Native Americans and the environment: perspectives on the ecological Indian*. Lincoln: University of Nebraska Press. c2007

Goble, Dale. and Hirt, Paul W. *Northwest Lands. Northwest Peoples: Readings in Environmental History*. Seattle. WA.: University of Washington. 1999

Nelson, Kurt R. *Treaties and Treachery: The Northwest Indians' Resistance to Conquest*. Caldwell. ID: Caxton. 2011

Gastil, Raymond D. and Barnett Singer. *The Pacific Northwest: Growth of a Regional Identity*. Jefferson. NC: McFarland &. 2010

Darnell, Regna. *And along Came Boas: Continuity and Revolution in Americanist Anthropology*. Amsterdam: J. Benjamins. 1998

Nelson, Richard K. *Make Prayers to ravens: A Koyukon View of the Northern Forest*. Chicago: Chicago University Press. 1986.

Paper, Jordan D.. *Native North American religious traditions: dancing for life*. Westport. Conn.: Praeger. 2007

Vogel, Carole Garbuny. *Legends of landforms: Native American lore and the geology of the land*. Brookfield. Conn.: Millbrook Press. 1999.

Bierhost, John. *The mythology of North America : with a new afterword*. Oxford ; New York : Oxford University Press. 2002