aay u sqélix^{w}

a history of bull trout and the Salish and Pend d'Oreille people

by Thompson Smith

written in conjunction with *Explore the River: Bull Trout, Tribal People, and the Jocko River*
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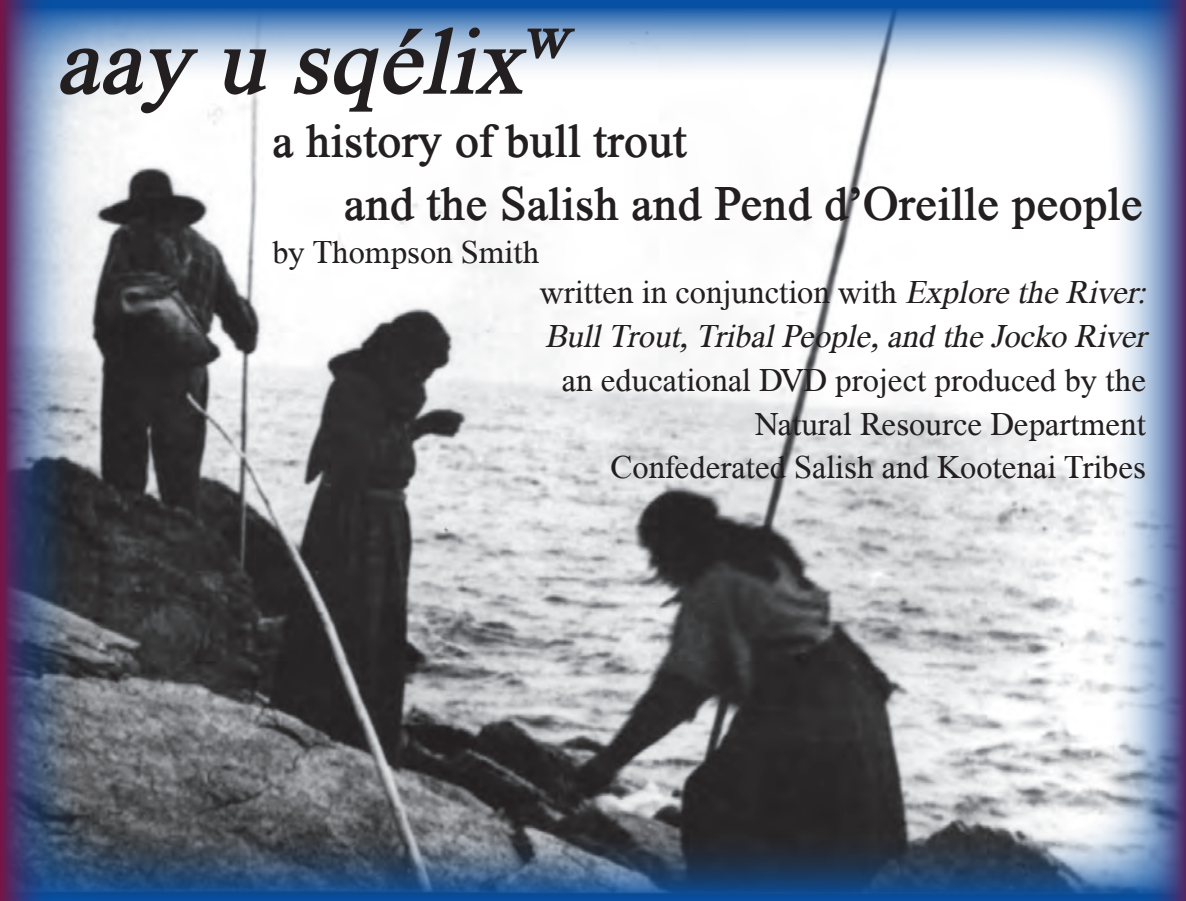

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Foreword

This essay was written in 2008-2010 as part of the interactive DVD/website, *Explore the River: Bull Trout, Tribal People, and the Jocko River* (Pablo, Montana: Confederated Salish and Kootenai Tribes, forthcoming 2011), an educational project of the Natural Resource Department, Confederated Salish and Kootenai Tribes, to be distributed by the University of Nebraska Press. The author wishes to extend his thanks to the project director, Germaine White, and the author of the scientific segments and constructor/designer of the DVD, David Rockwell. Please also see acknowledgments at the end of the essay.

Any profits that may derive from future publication of this essay will be donated to the Confederated Salish and Kootenai Tribes.

Cover image: **Unidentified Salish-Pend d'Oreille people fishing at Flathead Lake, c. 1915.**
Courtesy Salish-Pend d'Oreille Culture Committee, Confederated Salish and Kootenai Tribes.

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Introduction

M̓a łu es š?i łu cwičtn y̓e st̓úlix^{w}*, q*^{w}*amq*^{w}*mt y̓e st̓úlix*^{w}*. X̣est y̓e st̓úlix*^{w}*.*
In the beginning, when I saw this land, it was beautiful. This land was good.

Esya?, esya? u it cniłc u es x^{w}*isti łu puti tas x*^{w}*?it łu suyapi.*
Everything, all things were used from the land when there were not many white people.

K^{w}*em̓t esya? ye qe sewłk*^{w} *ye qe nsisy̓etk*^{w} *u x̣est es momo?op. X̣est es en̓esi.*
All our waters, our creeks were flowing along good. It was going good.

L šey̓ ye l sewłk^{w} *u łu x*^{w}*?it łu x*^{w}*ix*^{w}*ey̓uł -- łu sẅew̓ł łu t?e stem̓.*
It is there in the water -- that is where there were many animals -- fish and other things.

K^{w}*em̓t šey̓ še nk̓*^{w}*úlex*^{w} *qe sq*^{w}*yúlex*^{w} *łi?e l sewłk*^{w}*....*
And by that, we were wealthy from the water....

Mitch Smallsalmon, 1977[1]

For thousands of years, the Salish and Pend d'Oreille people have inhabited a vast territory that includes the area now encompassed by western Montana. And for almost all of that immense span of time, they lived entirely as hunters, gatherers, and fishers. They practiced no agriculture at all -- and yet for millennia, through all the historical change and dynamism of that vast period, it seems clear that these tribes generally sustained themselves well, and took good care of their homeland. How did they do this? What enabled their societies to live and thrive, and in the largest sense maintain a sustainable relationship with their homeland, for such a remarkably long period of time?

There are many answers to these questions, or rather many facets to the answer. But one of the keys to the long-term success of the Salish and Pend d'Oreille way of life, as Pend d'Oreille elder Mitch Smallsalmon said, was the water -- the clear, cold, abundant waters of the tribes'

territories, and the fish that teemed in almost every creek, river, and lake. *Kʷeṁt šeẏ še nk̓ʷúlexʷ qe sqʷyúlexʷ łiʔe l sewłkʷ*, Mr. Smallsalmon told us. “By that, we were wealthy from the water.”

Salish man fishing, Bitterroot River near *Łq̓ełml̓š* (Stevensville), 1854.
John Mix Stanley lithograph from Isaac Stevens’ *Narrative and Final Report of Explorations.*

And of all the “wealth” that swam through those sparkling waters, none was more important to tribal people, to their survival and their well-being, than the greatest of all the native fish -- *aay,* the bull trout.[2] These remarkable creatures served as a critical, stabilizing component of one of the most sustainable ways of life the world has ever seen. This may seem surprising, for most scholars have considered fish an almost incidental part of the Salish and Pend d’Oreille diet. In this brief essay, we will try to provide some understanding of how fish, and in particular bull trout, were in fact of vital importance to the tribes. In the process, we will explore how the histories of people and bull trout have been intertwined from the beginning of human time in the Northern Rockies.

aay
bull trout – *Salvelinus confluentus*
Illustration courtesy Joseph R. Tomelleri.

Chapter 1: The Tribal World of the Northern Rockies

When we try to understand the Salish and Pend d'Oreille way of life, the relationship between the people and the land, we need to listen first to the *sq*^{w}*llum̓t* -- the ancient tribal stories of the creation and transformation of the world and its creatures.

These sacred legends tell of *Snčl̓é*, Coyote, who traveled across the land, killing the *naɬisqélix*^{w}*tn* -- the people-eaters or monsters. Coyote prepared the world for the human beings who were yet to come. He told how things would be in future time. He showed how to live in a good way -- a way of respect for other people, and also for the animals and plants, the land and water, upon which the people depend. He showed how to hunt animals properly, and how to fish. He showed which plants to gather for food and medicine, and how to use them. He showed how we should honor and respect whatever surrenders its life so that people might live. And Coyote, through his many misdeeds and mistakes, also showed how not to live.

Through these stories, the elders teach -- and the children learn -- the consequences of both good and bad actions. Coyote showed that by living the right way, people would always have sustenance and good fortune.[3]

As we look more closely at those stories, we discover that they also contain clues to how long the Salish and Pend d'Oreille people have inhabited western Montana, practicing the way of life shown by Coyote. Many of the legends describe a strange and now vanished world. The land was gripped in cold and ice, great dams blocked the rivers, and water flooded the valleys. The stories describe the gradual retreat, advance, and then final retreat of the bitter cold

weather, and the establishment of the four seasons. They describe the disappearance of large animals like giant beaver and giant bison, and their replacement by the smaller versions of these creatures that we know today.[4]

In fact, the creation stories of the Salish, Pend d'Oreille, and other tribes throughout the region sound very much like the stories that scientists now tell about the last ice age. Many of the monster-animals bear a close resemblance to what scientists call the Pleistocene megafauna. The descriptions of cold and ice, of dammed rivers, and of great floods, echo geologists' accounts of Glacial Lake Missoula -- which finally drained about 13,000 years ago. The remarkable ways in which the geologic record coincides with the traditional stories of Coyote and the transformation of the Salish and Pend d'Oreille world suggest that these stories should be regarded as more than myths. In relating the stories, the elders will often remind their listeners, *l šeỷ u ec̓x̣ey* -- "this is true, that's how it is." We should regard tribal creation stories as, among other things, the mythologized memory -- the oral history -- of the most ancient reaches of the tribal past.

It is not only creation stories and their uncanny parallels with the geologic record that testify to the ancient tenure of tribal people in western Montana. Archaeologists have also documented the astonishing span of human history here. Some sites within Salish-Pend d'Oreille aboriginal territories date back about 10,000 years. Many archaeologists recognize this is an incomplete record, and believe that it is almost certain that people occupied the area at an even earlier time. Particularly on the west side of the Continental Divide, it is virtually impossible to determine any earlier human presence through archaeology, due in part to the ice age's

cataclysmic effects, including the grinding and carving action of glaciers and the massive floods associated with the draining of Glacial Lake Missoula.[5] In the view of tribal elders, the signs of ancient life uncovered by archaeologists are the traces of the first people to live in the region after Coyote rid the land of the *naɬisqélix*^{w}*tn* -- the people-eaters. They are the ancestors -- the *x̣*^{w}*l̓čmussn* -- of the Salishan people. Unlike some other parts of North America, there is little evidence in either the archaeological or ethnographic record to suggest that other people occupied Salish-Pend d'Oreille territories prior to them.[6] Although tribal elders and non-Indian scholars speak in different ways and in different languages, they reach the same conclusion: the Salish and Pend d'Oreille have inhabited their homelands for a very long time. From the time the land became habitable for human beings, these tribes have been hunting, gathering, and fishing across the mountains, valleys, and prairies of the Northern Rockies and High Plains.

The elders also tell us -- and linguists agree -- that in that earliest period of tribal history, the people lived as one great Salish nation. But many thousands of years ago, the population reached a point at which there were too many people to feed from the resources that could be obtained in one place. In response, the Salish nation dispersed. Various groups or clans migrated in different directions. Over time, they developed into the many tribes and dialects of the Salish language family, reaching from Montana westward to the Pacific coast -- including the Salish (or Bitterroot Salish), Pend d'Oreille, Kalispel, Coeur d'Alene, Spokane, Colville, Okanagan, Shuswap, Thompson River, Lillooet, and numerous Coast Salish tribes.[7] When linguists consider the extent of dialect differentiation in the Salish language family, they estimate that the initial dispersal of the tribe happened perhaps four thousand years ago.[8]

Out of that ancient beginning developed the intertribal world of the Northern Rockies and Columbia Plateau of which the Pend d'Oreille and the Salish were a part. Each of the western allies not only had its own language and/or dialect, but also its own distinctive culture, formed through the deep relationship each had with its home territory, the lands and waters and the specific plants and animals that lived there -- from bull trout to bison, from camas to chokecherries, from bitterroot to huckleberries. Yet for all their differences, the tribes were also bound together -- not only by their linguistic ties and their ancient shared history, but also by certain shared aspects of their cultures and ways of life.[9] All of the tribes in the region subsisted solely by hunting, gathering, and fishing. All moved across the land with the seasons to harvest these resources at the times, and in the places, where they were abundant and ready. Each of these tribes lived together in close-knit groups, carrying out many activities collectively. Leaders were chosen not only for their ability and wisdom, and their keen sense of the people and their needs, but also for their generosity and selflessness; they generally lacked police powers and governed by the respect accorded to them.[10] Most members of the various tribes shared a common idea of what was sufficient to meet their needs; they saw little reason, and in fact shared disincentives, for trying to fish, gather, or hunt -- or otherwise produce -- a great excess of anything.[11] While each tribe possessed an elegant and beautiful material culture, individuals owned relatively little personal property -- in part due to the requirements of a way of life in which they moved with the seasons. Each tribe recognized its great experts and artists in the crafting of its material arts, but most tools and other goods could be manufactured to at least serviceable quality by most members of the tribe, so there was a broadly shared sense of self-sufficiency. None of these tribes held any notion of owning land, let alone buying or selling it. There was nothing approximating money in the inter-tribal system of exchange, which was

centered around gift-giving traditions -- and differed in fundamental ways from the culture of market exchange that was so central to Euro-American society.[12] At the center of tribal cultures lay a deeply ingrained ethic of reciprocity between people, and between people and the land.

So across this vast area, across all its diversity of distinct tribal cultures and ecosystems -- from the buffalo plains east of the Continental Divide to the salmon rivers to the west -- Indian people, including non-Salishan tribes such as the Kootenai and the Nez Perce, lived in broadly similar ways. Although the boundaries between tribes were often vague and overlapping, each had a sense of its home ground, and if not a special claim, then certainly better access, to the resources there.[13] The tribes were known to one another as being particularly skillful in making certain goods or as rich in particular plants or animals or other supplies. The Salish might have a bounty of bitterroot or particularly fine deer or elk hides; the Pend d'Oreille a surfeit of bison or berries; the Kalispels a

Territories of Plateau Tribes.
From Deward E. Walker, Jr., ed., *Vol. 12: Plateau, Handbook of North American Indians*, ed. William Sturtevant (Washington, D.C.: Smithsonian Institution, 1998), ix.
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"Map of Washington Territory Showing the Indian Nations and Tribes," by George Gibbs and Isaac Stevens, 1854. Courtesy Washington State Historical Society.

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great store of camas; the Spokane a plenitude of dried salmon. While some of these surpluses were generally consistent from year to year (the tribes to the west, after all, almost always had plenty of salmon), other kinds of plants or animals varied with the shifting climate, with the cycles of drought and rain, and with the severity of the winters. In general, however, each tribe, while relatively self-sufficient, also produced, or harvested, certain surpluses that they would exchange with other tribes. The exchange of local surpluses benefited all participants by providing each tribe with greater diversity of goods, by reducing the amount of labor any one tribe was forced to undertake, and by strengthening inter-tribal relations. Often these exchanges occurred in the form of traditional gift-giving, which could occur either in formal gatherings between tribes or in simple person-to-person meetings or visits. But in all cases, exchanges were governed not only by shared values of gift-giving and generosity, but more broadly, by a shared sense of what was appropriate and right in their relations with each other and with the earth.

The inter-tribal world formed a coherent and stable whole on the basis of that common ground. Certainly, over the course of millennia, tribal people had to adapt and contend with a range of historical change that is probably beyond our knowledge today -- not only changes in climate and fluctuations in the availability of various foods, but also the inevitable vicissitudes in relations between nations.[14] But it seems clear that for a very long time, the tribes of the Northern Rockies and eastern Plateau shared a common way of life, and a common form of social organization -- and through inter-tribal trade and patterns of exchange, they maintained a coherent regional economy and culture that provided dependable sustenance, and careful stewardship of the environment.[15] As we look more closely at what gave that way of life such stability, it seems clear that fish -- and in particular bull trout -- played a critical role.

Chapter 2: "An Abundance of These Most Excellent Fish": The Importance of Bull Trout and Fishing in the Tribal Way of Life

The homeland of the Salish and Pend d'Oreille encompassed most of what is now western and central Montana, northern Idaho, and eastern Washington, centering around the drainage systems of the Flathead, Clark Fork, and Pend Oreille rivers, and extending east of the divide to the upper Missouri system and the Musselshell.[16] The tribes regularly used an even larger area for hunting, fishing, and gathering, reaching far into the eastern prairies and west to the rivers and valleys below Lake Pend Oreille. Salish-Pend d'Oreille placenames are scattered across this sprawling area, from east of modern-day Billings to the middle of what is now Washington State.

The central parts of Salish and Pend d'Oreille territory -- western Montana and northern Idaho -- at first glance seems a poorer country than the neighboring regions to the east and west. The Northern Rockies lacked both the gigantic buffalo herds that blackened the Great Plains, and the seemingly inexhaustible supplies of salmon that thronged the lower Columbia River system.[17] But this in-between country held a great diversity of plant and animal foods, and it is where the Salish, and especially the Pend d'Oreille, harvested the majority of what they needed, particularly before they acquired horses, and after 1880, by which time wild bison were virtually exterminated. The Salish and Pend d'Oreille could not -- and therefore did not -- depend on any single food resource as much as did tribes of either the Plains or the Plateau. This probably made them less vulnerable not only to the cataclysmic change of the recent historic period, but also in the distant tribal past, when the tribes had to contend with climatic change and other crises over the long span of their tenure in the region.[18]

From both tribal oral histories and the earliest written observations of non-Indian visitors, it is clear that the Salish and Pend d'Oreille homelands provided great abundances of those varied foods and materials. A significant portion of the diet came from a copious array of plant foods -- prairies full of bitterroot, moist high meadows blue with the blooms of camas, mountains full of huckleberries, serviceberries, elderberries, chokecherries, red osier dogwood berries, black hawthorn, Columbia hawthorn, and other fruits. Deer, elk, mountain sheep, mountain goat, moose, antelope, and other animals provided plentiful meat; even bison ranged west of the Continental Divide until the mid-nineteenth century.[19]

Selected major rivers of Salish and Pend d'Oreille territories.

While Salish and Pend d'Oreille people would also regularly travel west to fish for salmon or to trade with the salmon tribes,[20] the rivers, streams, and lakes in what is now western Montana and northern Idaho were rich in other fish, many of which played crucial roles in the traditional diet, including such important species as *pisɬ* (westslope cutthroat trout), *x̣ʷy̓ú* (mountain whitefish), s*sl̓aw̓s* (largescale sucker), *čleṉe* (longnose sucker), and *qʷoʔqʷé* (northern pikeminnow). And of course, there was also *aay* -- the bull trout.

The earliest non-Indians who made their way across Pend d'Oreille and Salish territories and who recorded their experiences in journals often expressed astonishment at the bounty they witnessed. When George Suckley visited western Montana in 1853 as part of the Isaac Stevens exploratory expedition, he reported that "Grouse in the valleys and on the mountains, bear, deer, elk, beaver, and mountain sheep, are abundant." Suckley's superior, Lieutenant John Mullan, examined the mountains along either side of the Clark Fork River and reported that "game is found in great abundance . . . being principally elk and bear." Traveling through the Big Hole Valley, Mullan said "in this prairie are often seen large bands of buffalo and moose; deer and antelope, also, occur in great abundance" as well as "elk . . . bear, deer, ducks, and geese. We found very good grass, also."[21]

But at many other times and places, these strangers, who had little familiarity with the land, could find no game at all and were left destitute. In a number of instances, the visitors became utterly dependent upon tribal people for food. John Mullan, the day after he reported seeing so much game in the Big Hole, said he "saw none," and noted that while "this place is generally a favorite resort for game . . . unfortunately for us, it seemed to be most scarce when the

necessity for it was greatest."[22] Many historians have recounted how Lewis and Clark got lost trying to follow the Lolo Trail over the Bitterroot Mountains, were unable to find game, and survived only by eating the horses that the Salish had given them just a few days before. Relatively few historians, however, seem to have noticed that the Salish and Nez Perce people encountered by the expedition seemed quite well fed -- and in fact shared substantial quantities of food with their hungry visitors.[23]

Such strangely contradictory reports of abundance and scarcity pepper the reports and journals of many of the first non-Indian visitors to the region. Their observations may seem paradoxical, but in all probability they were largely accurate. In part, these early records reflect the newcomers' relative lack of knowledge of the resources, and how to procure them. But they also reflect a central feature of the ecology of the Northern Rockies -- a feature that had long before helped shape the way of life of the Salish and Pend d'Oreille people: most of the edible plants and animals of the region were indeed abundant -- but only in certain places, and only at certain times.

The tribes' aboriginal territories encompass a tremendous range of ecosystems -- from low-lying, well-watered valleys to alpine tundra, from old-growth cedar forests to short-grass prairies and high sagebrush deserts. Annual precipitation and average temperatures can vary greatly between areas only a few miles apart. Across the seasons and years, temperatures could range from more than 40 degrees below zero Fahrenheit to over 100 degrees above. For half of the year, typically, the land was covered in snow and ice. Years of drought regularly cycled through the region, resulting in marked changes in the availability of game, and also of roots

and berries, many of which are only ripe for short periods of time. Bitterroot, an important staple in the traditional diet, occurred in enormous quantities, but it requires very specific soil and moisture conditions, and it is ready to be dug for only a few weeks each year. In each of the particular locations where bitterroot grows, it comes as a brief "visitor" welcomed by the people with ceremony and prayer. Once the elder women have reported to the chief that the bitterroot is ready -- usually in late April or early May -- it must be dug, dried, and stored within a two or three-week period. The same is true of other major plant foods, such as huckleberries. Some others, such as camas, are available throughout the summer and fall, although they are more easily spotted during the brief period in which their bright blue flowers bloom. A few plant foods, such as serviceberries and hawthorn berries, have a brief period in which they are ripe and abundant, but those left on the bushes dry out and can still be gathered later in the year.

The tribes hunted at all times of the year, but game populations also move with the seasons and occupy a variety of habitats over the course of the year, and are scarce at certain times and places. In fall, when animals were in prime condition, and when the young of the year were able to survive on their own, hunters sought to harvest great numbers of deer, elk, bison, and other game, which were dried and stored for the long winter ahead. And whether a single animal was killed, or a group surround-hunt took as many as one hundred deer at a time, the people took care not to kill too many — to let enough escape to ensure the survival of healthy game populations. As with the harvesting of plants, the taking of animals was imbued with spiritual respect, with a consciousness that when the world came to be as it is, certain animal-people decided to become what we know today as deer, bison, elk, antelope, moose, caribou,

and to give themselves as food for the human beings. In the Salish and Pend d'Oreille way, a successful hunt is as much the animal giving itself to the people, as it is the hunter taking the animal. Meat was shared equitably in the encampments between those who had good luck and those who did not. There was an acceptance that sometimes meat would be plentiful, and sometimes it would not.

In an environment where resources ebbed and flowed in such dramatic fashion, the Pend d'Oreille and Salish and other tribes of the region were nevertheless able to flourish for millennia living solely as hunters, fishers, and gatherers -- without any agricultural crops, and no livestock prior to the introduction of horses some three hundred years ago. In the words of anthropologist Wayne Suttles, they had mastered the art of "coping with abundance" -- that is, of capturing the brief, intense bounties of the plants and animals of their territory.[24] They had developed a profound geographical and ecological understanding of their enormous homeland and of the population dynamics of its plants and animals across seasons -- and across the longer spans of decades and even centuries. The ancestors came to know even the long climatic cycles of temperature and precipitation, whose variations would later raise havoc with non-Indian farmers and ranchers, who were less able to adapt quickly to periods of severe drought or unusually bitter winters. Salish and Pend d'Oreille people developed technologies finely tuned to harvesting and storing that shifting bounty with the least effort and the greatest reliability. The elders tell how that knowledge and understanding came from both spiritual guidance and from the kind of practical experience that can only be gained by living in one place for many generations. And while the Salish and Pend d'Oreille were not agricultural, they nevertheless maintained an active hand in managing their diverse and complex food base. As has been

Kootenai fish trap and tipis at Tobacco Plains, 1861.
Taken by the Northwest Boundary Survey, it is one of the oldest photographs of tribal life in the region. Kootenai, Pend d'Oreille, and Salish fish traps were of very similar design.
Library of Congress.

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extensively documented elsewhere, the tribes nurtured and augmented the productivity of plant and animal foods through the careful and highly skilled use of fire, which increased forage for game, and also revitalized and fertilized berry patches, camas fields, and other plant foods.[25]

But the Salish and Pend d'Oreille, in their effort to gain steady sustenance in a dramatically variable environment, also drew upon an additional, critically important resource: fish. In a land of shifting abundances, fish were an unusual food in two crucial respects. First, they

were readily available year round; and second, they provided a high quality source of protein. During the seasonal spawning runs, in spring and fall, tribal people caught bull trout, cutthroat, whitefish, and other fish using expertly crafted weirs and fish traps along many of the streams and rivers. At other times of year, fish were still easily harvested, if in lesser quantities, in virtually any stream or river in every corner of the tribes' sprawling territories -- and Salish and Pend d'Oreille fishers harvested them not only with weirs and traps, but also with gaffing hooks, spears, fishing poles and lines, dipnets, and even bows and arrows.

Global studies of hunter-gatherer-fisher societies have documented both the stress induced by seasonal fluctuations in the availability of food, and the importance of protein as a dietary component. Animal protein in particular, as a concentrated source of energy, assumed a place of premium importance in many tribal diets -- particularly at times of scarcity.[26] In the Northern Rockies, that generally meant winter -- particularly late winter, when the stores of dried foods were dwindling and the fresh roots and forbs of spring had not yet appeared. Fish were the one plentiful source of animal protein that remained readily available throughout the year. As Eneas Pierre (1908-1985) remembered, the Salish therefore always located their winter camps at places known to have good fishing throughout the cold

Łq̓eɫml̓š -- Stevensville, Montana.
Oil painting by Tony Sandoval, 2003, courtesy Salish-Pend d'Oreille Culture Committee.

months. He recalled that in the nineteenth century, the main Salish winter camp was located along the Bitterroot River, *ci č̓ Łq̓eɬml̓š ci x̣eyɬ č̓ ciʔ ci č̓ nisq̓ʷo* -- "at Wide Cottonwoods [the area of Stevensville, Montana], a little further across the river."[27] He continued,

u i šeʔ iʔistč,	that's where they would winter,
še ɬu x̣ʷa iše xʷʔit sẇeẇɬ.	because there were plenty of fish there.
Kʷeṁt l še u iše istč	That's why they would winter there, the
ɬu sqelixʷ l Łq̓eɬml̓š.	people at Wide Cottonwoods [Stevensville].

In the Bitterroot River, it should be noted, bull trout were one of the principal species of fish, historically present in most if not all of the river's thirty-nine tributary streams -- and many of them were apparently of the larger fluvial or adfluvial form, as we describe on the following page.[28] As Mr. Pierre notes, a dependable supply of fish was a determining factor in the location of winter camps there -- *kʷeṁt l še u iše istč*, he said – "that's *why* they would winter there." As a subsistence strategy, it certainly makes sense. Gordon Hewes, in a seminal essay on fish in the diets of indigenous peoples, found that "Measured by the caloric effort required to obtain them, aquatic foods as a whole have an exceptionally high degree of nutritional efficiency."[29]

The importance of fish in the overall subsistence strategy of the Salish and Pend d'Oreille may come as a surprise to readers of the standard anthropologies of the tribes. To be sure, when there was opportunity for tribal hunters to bring in red meat, that was usually the preferred food. Much of the ethnographic and historical literature, however, has both overstated the importance of game and also understated the importance of fish for these tribes. In perhaps the least rigorous area of his generally excellent research, the ethnographer James Teit, who

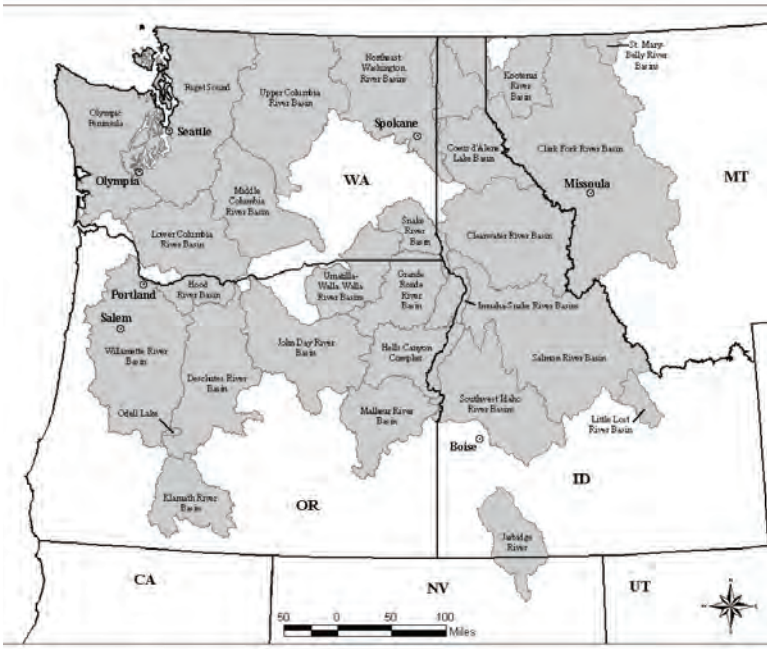
conducted field work on the Flathead Reservation beginning in 1909 under the direction of Franz Boas, dismissed fishing as "of much less importance to the Flathead tribes than hunting." Teit did not define "importance," although he was apparently using the crude measure of total caloric percentage in the diet -- a metric that could not gauge the role of fish within the context of the tribes' seasonal cycle and the region's ecology, with its dramatic ebbs and flows of weather and food resources. Teit did note how "plentiful" fish were in the waters of the tribes' territories, and he acknowledged that "no doubt in earlier times, when the people were more sedentary, fishing was engaged in to a considerable extent by certain bands of the Kalispel and Pend d'Oreille, especially by the people living around Flathead Lake." But Teit never tried to rectify the rather contradictory picture he drew, and the researchers who followed him into Salish and Pend d'Oreille communities in the early to mid-twentieth century repeated almost verbatim his off-hand minimization of the importance of fish in the tribal way of life of the Northern Rockies.[30]

Spawning bull trout.
Photo by Jim Cummins, courtesy Washington Department of Fish & Wildlife.

Fish did in fact play a critical role in the traditional Salish-Pend d'Oreille subsistence strategy, and bull trout were the most important of the fish. They were plentiful, and the large adults

were by far the biggest of any of the indigenous species; they were an ideal food for sustaining a hungry population through the long, harsh Montana winters. Known to science as *Salvelinus confluentus*, the bull trout is endemic to western North America.[31] It originally inhabited much of what is now the northwestern United States and southwestern Canada, including the entire Columbia River basin from Montana west to the Pacific coast, as well as the Puget Sound area, much of British Columbia, the Klamath River system in Oregon, the Jarbridge River in northern Nevada, the McLoud River in northern California, and possibly certain rivers in southeastern Alaska. There were even populations east of the Continental Divide in present-day Alberta and Montana.[32]

There were and are three distinct life-history patterns among bull trout in what is now western Montana: a stream-resident form that lived entirely in small headwater streams; a fluvial form that lived as an adult in the larger rivers but spawned in the small tributaries; and an adfluvial form, which lived as adults in large lakes such as Lake Pend Oreille, and like the fluvial form, returned to spawn in the streams once they reached sexual maturity at about age five.[33] The adfluvial form of bull trout were the ones that reached the greatest size -- the biggest reaching over three feet in length and weighing well



Bull trout populations & drainage systems. US Fish & Wildlife Service.

over twenty pounds. Unlike Pacific salmon, bull trout do not die after spawning, but spawn repeatedly (in many cases annually) over a life span that averages about ten years, and in exceptionally favorable conditions exceeds twenty years.[34] The different forms of bull trout were well known to the Salish and Pend d'Oreille, and are reflected in their terms for the fish -- *aay,* for the larger form, and *łʔay*, for the smaller variant.

Bull trout are perfectly adapted to the clear, cold mountain waters of Salish-Pend d'Oreille territories. After the female deposits her eggs and they are fertilized by the male, water temperatures must remain below 9° Celsius (46° Fahrenheit), with optimal temperatures hovering around 2° to 4° Celsius (35 to 39° Fahrenheit), as the eggs incubate.[35] The fry emerge from the eggs over seven months later, during the following spring or early summer. They grow gradually, with the fluvial and adfluvial forms eventually becoming entirely piscivorous (fish-eating). Throughout the bull trout's development -- indeed, throughout its life -- water temperatures need to remain below 15° Celsius (59° Fahrenheit). After one to three years, the juvenile fluvial trout move into the mainstem rivers, and the juvenile adfluvial trout make their way down to the big lakes. After two to four years in the large bodies of water, the bull trout have reached adulthood, and return upriver to spawn. In the great spawning migrations of the Clark Fork drainage system, bull trout moved over immense distances -- roughly 175 miles upstream from Lake Pend Oreille to the headwaters of the Jocko, and nearly as far for those populations swimming from Flathead Lake up to its headwaters.[36] Bull trout covered a vast region, and they did so in vast numbers.

Many tribal elders who came of age before the construction of dams in western Montana have offered vivid stories of the abundance and enormous size of bull trout at many places across the tribes' aboriginal territories. Joe Eneas (1896-1997) recalled fishing for bull trout in the Jocko River near Ravalli, and how he and his family would "get these big bull trout. Oh, big ones. Hook them, snag them.... Yeah, there's lots...these bull trout that come up the river."[37] Mr. Eneas also remembered catching them at St. Mary's Lake, in Mission Creek, and at McDonald Lake. And he and his family would ride across the open, unfenced, roadless prairies of the Mission Valley until they reached the falls of the lower Flathead River -- *Sʔipmétkʷ*, "the place of the falling waters," where Kerr Dam would be constructed in the 1930s. Mr. Eneas's family would camp there for a week or two, primarily to fish for bull trout. "The

Looking up the Clark Fork River toward Hellgate Canyon, c. 1900.
Yale Collection of Western Americana, Beinecke Rare Book & Manuscript Library.

***Nɬʔay* -- Rattlesnake Creek and Clark Fork River, Missoula, Montana.**
Oil painting by Tony Sandoval, 2003, courtesy Salish-Pend d'Oreille Culture Committee.

main thing it was known for," Mr. Eneas recalled, "was it was a good fishing place, because as the water falls, it's kind of like a hole. That's where we fished."[38] Harriet Whitworth (1918-2008) remembered her sister, Agnes Vanderburg (1901-1989), describing the way the people would build rafts to harvest "huge" bull trout at Big Salmon Lake, which today lies within the Bob Marshall Wilderness Area.[39] Big bull trout were also caught in the drainage system of the South Fork of the Flathead River by Louie Cullooyah, whose son Joe Cullooyah (1930-2003) recalled his father telling stories of catching enormous fish there.[40] And Louie Adams (b. 1933), relating his family history, said that on January 1, 1897 his *yaya?* (maternal grandmother), Louise Vanderburg, was born at *Nɬ?ay* -- Place of the Small Bull Trout, around the confluence of Rattlesnake Creek and the Clark Fork River. At the time of Louise's birth, her father, Victor Vanderburg, was busy along the river -- fishing for bull trout.[41]

Nɬ?ay -- a name that came to be used by Salish and Pend d'Oreille people to refer to the city of Missoula -- is one of many Salish-Pend d'Oreille placenames that refer specifically to bull trout or other fish. These traditional placenames offer us a powerful way of understanding the tribal way of life. They also provide another window of access to the ancient origins of the tribal presence in western Montana. Linguists say that placenames are, in a number of cases, among the oldest words in the Salish language; some of them incorporate words or particles from proto-Salish or now-extinct Salishan dialects that existed thousands of years ago. Many of these placenames are rooted in the Coyote stories, the stories of the world's creation and transformation at the beginning of human time. A number of them reflect the tribal use of fire to shape the land -- the mix of small meadows and open forests of ancient trees that characterized many of the lower elevation valleys in tribal territory prior to the arrival of non-

Indians. A smaller number refer to historical incidents or people. But probably the majority of tribal placenames describe the resources that were found at a particular place in remarkable quantities or of unusual quality.

If Salish-Pend d'Oreille placenames provide us with one of the most powerful and profound ways of understanding tribal cultural ecology in general,[42] then they also testify to the abundance and importance of bull trout in particular. For throughout the drainage systems west of the Continental Divide, a remarkable number of places were named for bull trout. Indeed, it appears that more places were named for bull trout than for any other plant or animal.[43]

The Clark Fork River, in particular, is distinguished by placenames of considerable prominence that refer specifically to bull trout. Indeed, the names appear to reflect tribal knowledge of which forms of bull trout could be predictably found in which reaches of the river or its tributaries. As mentioned above, the confluence of Rattlesnake Creek and the Clark Fork is called *Nɬ?ay*, meaning Place of the Small Bull Trout. This was probably in reference to an abundance of the

Sam Resurrection along Clark Fork River, c. 1915.
R.H. McKay photo, courtesy Archives and Special Collections,
Maureen and Mike Mansfield Library, University of Montana - Missoula.

stream-resident form of bull trout.[44] A few miles upstream, the confluence of the Blackfoot and Clark's Fork River -- the area of present-day Bonner -- is called *Nʔayccstm*, meaning Place of the Large Bull Trout, in apparent reference to the fluvial or adfluvial form.[45] The area of the rapids just upstream from the Clark Fork delta -- a major center of Pend d'Oreille life -- was called *Snłuʔłẃé*, referring to how fish were speared there.[46] And the Clark Fork's headwaters at Butte -- specifically, the area around Silver Bow Creek -- is called *Snt̓apqey*, meaning Place Where Something Is Shot in the Head. In the 1950s, Salish elder Eneas Granjo explained that this name referred to the way Salish people harvested bull trout at the headwaters of the Clark Fork -- by shooting them in the heads with bows and arrows. In other words, the bull trout were so large and so numerous, and the waters of Silver Bow Creek so crystal clear, that the fish could be gathered in this unusual way.[47]

Many other placenames referred to fishing. The outlet of Seeley Lake is called *Epł x*^{w}*ẏ̓ú* -- Has Mountain Whitefish. Lower Jocko Lake is called *Nisisuté*(*tk*^{w}), from the schools of č*leńe* (longnose suckers) that formed shapes in the water. Dozens of other traditional names describe sites primarily known as places for fishing.

Over the past century and a half, as many traditional food resources declined or tribal access to them was blocked, many Salish placenames fell into disuse and were forgotten. Unlike Coyote stories and more formally established parts of tribal oral history that are retold regularly to younger generations, names of places often fall out of memory relatively quickly once tribal use of those places has ceased, and the elders who knew them pass away. We have tantalizing clues, from both tribal and non-Indian sources, that a number of these lost names referred to

bull trout. John Peter Paul remembered a placename in the Swan Valley often mentioned by his mother -- *Epɬ ɬʔay* (Has Small (or stream-resident) Bull Trout) but he could not recall the exact site. When Lieutenant John Mullan, a member of Isaac Stevens' exploratory parties that began traversing western Montana in 1853, was guided through the Blackfoot River valley by Salish and Pend d'Oreille guides, he referred to the stream that we know today as Monture Creek as "Salmon Trout river" or "Salmon Trout creek" -- almost certainly in reference to bull trout.[48]

Flathead River just below Flathead Lake, looking southeast toward Mission Mountains, 1853. John Mix Stanley lithograph from Isaac Stevens' *Narrative and Final Report of Explorations.*

Mullan's reports offer us some of the clearest and most detailed reflections in the written record of the value of bull trout to the tribes of this region. In April 1854, Mullan traveled to an ancient traditional Pend d'Oreille camp, located where the lower Flathead River leaves Flathead Lake. In the Salish language, this place -- now occupied by the town of Polson, Montana -- is called *Nc̓mqné(tkʷ)*. Mullan wrote,

> We found at the lake four lodges of the Pend d'Oreilles, who have been here some weeks fishing; they presented to us, on arriving at their camp, with some fine fresh and dried salmon-trout. This lake, and also the Clark's fork here,* abounds in excellent

* Until the late nineteenth century, some non-Indians considered the lower Flathead River to be the upper part of the "Clark's fork of the Columbia" and referred to it as such. Others called it the Pend d'Oreille River.

> fish, the salmon-trout being the most abundant. These latter are caught from the lake, often measuring three feet long. It forms one of the chief articles of food for the Pend d'Oreilles at this season. During the winter they often camp here when the lake is frozen over, when, cutting holes in the ice, they secure an abundance of these most excellent fish. While here, during the night we were aroused by a noise from the river, when, going to see whence it came, we found three men swimming the Clark's fork; they had been fishing on the opposite bank, and, having secured a large number, they were returning to their homes. The night was somewhat cold, yet such is the hardiness of these men that they think nothing of undergoing fatigue of this character. On their arrival at our camp they presented us with a number of these so dearly earned but excellent fish.[49]

The Pend d'Oreille band that lived in the Flathead Lake area was known in the Salish language as the *Słq̓tk*^{w}*msčin̓t* -- the People of the Wide Water, after the name of the lake, *Čłq̓é*(*tk*^{w}), meaning Wide Water. The lake was the center of Pend d'Oreille life -- as the ethnographer James Teit wrote, "the earliest recognized main seat of the Pend d'Oreilles...[with] several winter camps in the vicinity of the lake."[50] Anthropologist Carling Malouf wrote that "the density of occupation sites around Flathead Lake, and along the Flathead River...indicates that this was, perhaps, the most important center of ancient life in Montana west of the Continental Divide."[51] John Mullan's account certainly suggests that one of the reasons why these places were such vibrant centers for the Pend d'Oreille was "the abundance of [bull trout,] these most excellent fish" -- "one of the chief articles of food for the Pend d'Oreilles at this [spring] season."[52]

The importance of fish in the tribal way of life is reflected, in fact, in the oldest purely historical oral tradition of the Pend d'Oreille people -- the story of the dispersion of the Salish. There were probably several such movements over the course of the millennia, but the original

migrations are estimated by linguists to have occurred some four thousand years ago. In a recording made in 1975, the great tribal historian Pete Beaverhead spelled out in simple but precise terms the reason for this momentous change in tribal life:

...ye sqélix^{w} k^{w}em̓t k̓^{w}łtuwíɲ̓ t sʔiłn.	...these people, then they were running out
K̓^{w}łtuwíɲ̓ t x^{w}ix^{w}ey̓úł.	of food. They were running out of game
K̓^{w}łtuwíɲ̓ ec̓x̣ey x̣eył n̓e w t sẅew̓ł.	animals. They were almost running out of
Mił x̣^{w}ʔit....	fish. There were too many of them....
“Mil k̓^{w} es yapcini.	“We are all running short on everything.
K̓^{w} es čsq̓amé.”	We are all getting hungry.”[53]

As Mr. Beaverhead told the story, the game supply was exhausted -- and the fish supplies were “almost” exhausted. At that early date in tribal history, just as thousands of years later, fish were the safety net undergirding the tribal subsistence strategy. It was a telling indication of the depth of the crisis faced by the Salish nation, a measure of the extent to which the human population was pushing against the limits of the environment, that even the resource that provided the stable reserve of the tribal food base -- the always dependable supply of fish -- was in danger of depletion. Fish were so important in the food security of the tribe that the Salishan ancestors made the momentous -- and wise -- decision to disperse as a people *before* they reached that critical tipping point.

Indeed, it seems clear that fish, and bull trout in particular, were a crucial part of what made the Salish and Pend d’Oreille way of life not just a means of surviving, but generally comfortable, secure, and healthy. Fish helped ensure that the tribal mode of subsistence in western Montana, far from being a desperate “challenge to survive,” was exceptionally dependable over a very long period of time.

Valley of the Big Blackfoot River, 1853. Lithograph by John Mix Stanley, from Isaac Stevens' *Narrative and Final Report of Explorations.*

As we have noted, both the Salish and Pend d'Oreille often preferred red meat when it was available. But when we look more closely at a number of first-hand accounts, it becomes increasingly clear that both meat and fish -- especially bull trout -- were prized, and often both were harvested in the same area, at the same time.[54] An illustrative account is given by Isaac Stevens as he proceeded up the Blackfoot River in July 1855 -- immediately after negotiating the Treaty of Hellgate with the leaders of the Salish, Pend d'Oreille, and Kootenai tribes:

> Occasionally the trail led us back from the river, and we found abundant streams of water and large forest trees, but the woods were of an open character, with good grass and arable land; and, finally, on emerging from the canyon we came to a most delightful camp in the valley of the Blackfoot. Here we put to work our Pend d'Oreille guide and hunter, who had been placed at our disposal by Alexander, head chief of the Pend d'Oreilles, and who in less than an hour had for our supper the finest string of trout I ever saw in the mountains. Not content with which, however, he started out again; we soon heard the report of his gun, and half an hour afterwards he brought into camp an elk weighing at least seven hundred pounds. This elk he killed in a somewhat narrow fringe of forest trees, interspersed between the Kamas prairie of the Flatheads and the waters of the Blackfoot.[55]

As this account suggests, fishing was conducted not only as a dedicated activity -- and as a crucial part of winter sustenance -- but also in conjunction with every other part of the seasonal

cycle. The recorded oral histories of the tribes are sprinkled with references to fishing, many of them offered almost in passing. People fished during hunting trips in the fall, as Stevens related in 1855, and as many Salish elders have recalled from their trips to the Seeley and Placid Lake areas in the 1920s, 1930s, and 1940s. And during the spring and summer, the men often fished while the women dug bitterroot or camas or picked berries. Fishing was a big part of the varied activities during the summer months as well, as Mose Chouteh (1891-1987) recalled in this interview recorded in 1956:

Lake Pend Oreille, c. 1904. Library of Congress.

Kootenai fish harpoon of mountain goat horn and horse hair, collected on Flathead Reservation, 1935. Kootenai, Pend d'Oreille, and Salish fishing technologies were of similar design. Courtesy Division of Anthropology, American Museum of Natural History.

> Years ago, when I was a very small child, my uncles, my aunts, my grandparents, they... would get on canoes, three or four of them, made out of bark...we would go to store up on fish.... They would braid their traps and in these traps they would dig holes and the fish would go in and they would catch them in these large cones.... They would stay there for several days and then they would leave to the other end of the lake [Lake Pend Oreille]. And they would hunt for deer, elk, [black] bear. They would trap beaver. They would leave from Cusick early in the spring and they would stay at...Lake [Pend Oreille] for two or three months. They would be there all summer long.[56]

The *sq̓*^{w}*yox*^{w} or fish traps that Mr. Chouteh described in Lake Pend Oreille -- along with *x̣*^{w}*ličn̓* (weirs) and *esp̓nep* (dams) and *x̣*^{w}*oyep* (dipnet) -- were deployed by Salish and especially Pend d'Oreille people throughout their territories and were the primary method of harvesting the spawning runs of fish. More often, people fished using simpler technology, including hook and line with poles of willow, lodgepole pine, or other wood, lines of sinew or plants such as ninebark and dogbane, and hooks made of bone or thorns or even the claws of small birds. They also used *nɬẇetk*^{w}*tn* (spears) and *nq̓lq̓lx̣*^{w}*é* (gaffing hooks), and in certain times and places used bows and arrows. They sometimes fished from boats at night, using fire to attract the fish and spear them.

But as Pete Beaverhead said, larger quantities were harvested during the spawning runs through the use of fish traps and weirs. *K*^{w}*em̓t n̓e put č̓ʔey̓ilš, put tẇaq ɬu piccɬ, k*^{w}*em̓t nc̓y̓ilš ɬiʔe t es momoop ɬu x̣*^{w}*y̓u, u pisɬ, u ɬʔay* -- "when the leaves fall in the autumn, then the whitefish, trout, and bull trout go upstream. There were many fish that went up the streams." *K*^{w}*em̓t lše u es, es q̓*^{w}*yoʔox̣*^{w}*ey, es awstm "es q̓*^{w}*yoʔox̣*^{w}*ey" ɬu sqelix*^{w} -- "This is where the people fish by making trenches in streams with dry wood -- it is called by the people '*es q̓*^{w}*yoʔx̣*^{w}*ey*.' " Mr. Beaverhead recounted in great detail the way these weirs and fish traps were built and used, and in his descriptions of the considerable time and effort dedicated to this method of fishing, he provided powerful testimony to the vital importance of fish in the tribal mode of subsistence. Oftentimes, he said, when people would go to check their traps, they would be gone until well after midnight. *X̣*^{w}*a n̓em k*^{w}*ek*^{w}*st m eɬ ciʔaʔap* -- "Maybe they will return in the morning." And after the fish completed their spawning run,

kʷem̓t n̓e put łu x̣ʷa k̓ʷinš sčace še eł wełkʷp łu sẘew̓ł esyaʔ, eł n qe cuntm "eł nʔax̣ʷt." Kʷem̓t eł k̓ʷuʔul̓is łu acm̓iʔis y̓e put u l n̓ihe sewłkʷ še čcnwexʷ.	then some weeks later, all the fish will go back downstream -- this is what they call "*eł nʔax̣ʷt.*" Then the people build their trenches again."[57]

Salish and Pend d'Oreille people often smoked or air-dried fish and stored them; when needed, they could then be boiled and eaten. The storing and consumption of fish, like all the other traditional foods, was governed by the strong cultural ethic against wasting anything:

Kʷem̓t pentč u esyaʔ u es čtemm̓ łu sp̓iqałq ułu sẘew̓ł ułu st̓at̓aap łu skʷiskʷs łu stem̓. Esyaʔ u es iłistm; esyaʔ u es čtemm̓.	They always used everything -- the berries, the fish, the things they killed like the ruffed grouse or anything else. They ate everything and used it all -- nothing was wasted.[58]

The homeland of the Salish and Pend d'Oreille people was a place of abundant but fluctuating resources. It was an environment both rich and challenging, and the traditional way of life was perfectly developed to meet that challenge -- to harvest with finely tuned expertise the evanescent foods of the land and waters, and to provide a stable sustenance for tribal people. A crucial part of that stability was the availability of fish, particularly bull trout, and the tribes' remarkably efficient methods of catching them. As we shall see, the strangers who first came to western Montana in the early nineteenth century had a far harder time subsisting -- and an equally hard time understanding why Indian people seemed so relaxed, so confident, when they were surely teetering on the brink of starvation.

Chapter 3: Fishing, Bull Trout, and the Confidence of Tribal People

When the elders talk about the old ways, they do mention occasional food shortages and times of scarcity. But they emphasize that the ancestors were able to respond effectively to these crises by drawing upon their profound knowledge and understanding of their homeland, and their intimate relationship with the plants and animals. *Eċx̣ey tʔes nmƛ̓mnwe łu sqélixʷ l xʷixʷeẏúł*, said Pete Beaverhead. “It is as if the Indian people are mixed in with the animals.”[59]

T sox̣ʷép u es ʔi łu sqélixʷ t sq̓si,	The people of long time ago ate roots,
t sp̓iʔqałq u es iłn,	they ate berries
t xʷixʷeẏúł u es ʔi t sqeltč....	and they ate the meat of the animals. ...
Kʷeṁt eċx̣ey łu sẇeẇł -- smłi,	And the same way with the fish -- salmon,
pisł, aaycčst, qʷq̓ʷe.	trout, bull trout, northern pikeminnow....
Kʷeṁt eċx̣ey t xʷixʷeẏúł łu sqélixʷ.	This is why the Indians were like the
Čsax̣m č̓ xʷixʷeẏúł.	animals. They are close to the animals.

The oral histories told by Pete Beaverhead and other tribal elders are the most accurate and reliable sources we have for understanding the Salish and Pend d’Oreille way of life, in both the details of how things were done and the larger issue of cultural worldview. But it is also useful to draw from the written accounts of early non-Indian visitors to the region for their often specific descriptions of tribal people practicing the old ways -- and in particular, fishing. In extracting this information, however, we must also be aware of the lenses through which most of these writers viewed Indian people. Few were able to see -- or perhaps admit to -- the depth of native ecological understanding. The journals of early missionaries, in particular, often characterize tribal people as passive “children of nature,” spared from certain starvation only by the repeated miraculous intervention of Divine Providence.

Samuel Parker, a missionary who traveled through the region in September 1837 mainly in the company of Nez Perce people, was typical in fretting that "the Indian mode of living is very precarious." He could not understand why "they are not very anxious about the future. When they have a plenty, they are not sparing; and when they are in want, they do not complain." As Parker's party, low on supplies, approached the formidable Salmon River Mountains in what is now central Idaho, the missionary "felt a prayerful concern for them, that God would send a supply." Yet the very next day, Parker said, we "unexpectedly saw before us a large band of buffalo." Doubtless the Nez Perce shared Parker's sense that this was a spiritual blessing. But it also seems likely that their lack of concern did not stem solely from their faith; they were, after all, traveling through the country that they and their ancestors had known for millennia, and they knew of the possibility of finding buffalo, and the virtual certainty of finding some form of sustenance.

For tribal people, that sense of certainty -- that confidence -- came in part from their knowledge of the fisheries that formed the safety net beneath the traditional way of life. In April 1841, the Jesuit missionary Gregory Mengarini and his party were heading for the Bitterroot Valley, where they would found St. Mary's Mission. When they reached Fort Hall, along the Snake River in what is now southeastern Idaho, they "found some twenty Flatheads [Salish] awaiting our arrival." Unfortunately, everyone in both parties was nearly out of food, and once the small stores of pemmican were consumed, the missionary, through his translator, "politely informed them [the Salish] of the fact." Mengarini, like Parker and De Smet, was unnerved by the prospect of being without food: "not withstanding that we had already faced hunger so often, we found its visage as ugly as ever." But then, as in so many other similar incidents

in so many other journals, Mengarini found his fear misplaced. Among the Salish welcome party was a teenager named Francois Saxa, who some years earlier had accompanied a party of tribal people in traveling to St. Louis to seek out the power of the Jesuits -- the *q̓*^{w}*ayl̓qs* or "blackrobes." Mengarini, frightened by the looming "visage" of hunger, watched as Saxa simply went fishing:

> ...with Indian ingenuity, [Saxa] soon rid us of our unwelcome visitor [hunger]. Fort Hall is on a branch of the Snake River. Taking a line and unbaited hook, he went to a hole in the river, threw in his line and began to switch it from side to side. The hole must have been swarming with fish; for, in a short time, he had landed such a number, some caught by the fins, some by the tail, some by the belly, that all danger of starvation was quickly dispelled.[60]

Few of the newcomers to Salish-Pend d'Oreille territory could accept the notion that hunting, fishing, and gathering might provide as dependable and bountiful a way of life, and as healthy and contented a people, as settled agricultural societies. For missionaries in particular, to entertain that possibility would call into question their very worldview, and perhaps undermine their central purpose in coming to the Northern Rockies: the religious and cultural conversion of what

At upper right, Francois Saxa in an 1859 image of Salish, Pend d'Oreille, and Kalispel leaders with Pierre-Jean De Smet, S.J. during visit to Fort Vancouver. Pend d'Oreille Head Chief *Tmɬx̓ʔcín* (No Horses or Alexander) is seated second from left. Jesuit Oregon Province Archives.

Pierre-Jean De Smet called “the poor benighted Indian tribes.”[61] So when Parker came upon the Pend d’Oreille, he observed that they were, like the Salish, “dignified in their persons, noble, frank, and generous in their dispositions.” De Smet -- the missionary who in 1841 founded St. Mary’s Mission in the Bitterroot Valley -- similarly called the Salish “my dear Flatheads,” and described them as “a grave, modest and decent people . . . Their piety is truly moving . . . Their charity toward the old and infirm is very great. The name of orphan is unknown among them.” The Pend d’Oreille, De Smet said, held the same “dispositions and customs.”[62] And yet both Parker and De Smet remained undeterred in hoping that tribal people would abandon their way of life. “Their country has many fertile parts,” Parker wrote, “and would soon be put under cultivation, if they could obtain instructors to teach them agriculture and to impart to them a knowledge of those things which are necessary to constitute a happy and prosperous community.”[63]

In the journals and letters from those early decades of the nineteenth century, the observers’ presentation of tribal culture as inherently insecure often juxtaposes awkwardly with their direct reporting of the abundance of the resources drawn upon by Indian people -- and their apparent ease and even joy in harvesting them. Tellingly, this problem emerges perhaps most markedly in their accounts of native fishing practices. In 1846, De Smet traveled to the Kootenai River valley, where he saw the bountiful fisheries drawn upon by the Kootenai people. De Smet noted that the spring floods created “immense lakes and morasses...filled with fish; they remain there inclosed [sic] as in natural reservoirs, for the use of the inhabitants. The fish swarm in such abundances that the Indians have no other labor than to take them from the water and prepare them for the boiler.”[64] Lest this description sounded overly appealing to

his readers, De Smet cautioned that "Such an existence is, however, precarious."[65] As evidence of this, he simply noted they would fish for a while, and then "go afterwards in quest of roots, grain, berries and fruits."[66] And then, De Smet continued, "As soon as their provisions are exhausted the Indians scour the plains, forests, and mountains, in quest of game." A seasonal cycle that moved from fishing to root-digging to berry-picking to hunting was, to De Smet, somehow inherently less stable -- more desperate -- than a seasonal cycle that moved from birthing calves to planting wheat to mowing hay to harvesting wheat.

De Smet's narratives reflect what Timothy Weiskel has called the "Neolithic bias"[67] -- a deeply ingrained assumption that hunting-gathering-fishing ways of life, in which people do not directly or overtly control the plant and animal resources upon which they depend for food, are inherently more tenuous and by definition less "advanced" than agricultural modes of production. As Weiskel notes, the Neolithic bias is maintained in part because the techniques and principles used by hunter-fisher-gatherers to stimulate or protect the production or availability of "wild" foods (e.g., using fire to revitalize certain plants, or cultural strictures against over-harvesting) are often too subtle to be fully discerned by people accustomed to the more obvious methods employed in agriculture to manipulate and control nature.

Despite the deeply ingrained biases of many early non-Indian observers in Salish and Pend d'Oreille territories, we can still glimpse in their accounts something of the depth of knowledge and remarkable sense of assurance of indigenous people in harvesting their resources. In particular, we can find indications of the critical role played by fish in the tribal way of life. In September 1853, as part of the Isaac Stevens' exploratory reconnaissance of the

region, Lieutenant John Mullan traveled along the Smith River in central Montana -- an area near the headquarters of one of the original five or six bands of the Salish. “We had a luxury to-night,” Mullan reported, “in a string of mountain trout, brought into camp by one of our Flathead friends; these trout, which form a very excellent dish, were twelve inches long, of a slightly yellow tinged color, and spotted on the upper half.” But what most struck Mullan, like so many other non-Indian visitors of this early period, was the generosity of Indian people even at times of scarcity -- and their evident lack of concern about getting something to eat in the near future:

Lieutenant John Mullan.
Courtesy Archives and Special Collections, Maureen and Mike Mansfield Library, University of Montana - Missoula.

> Our Indians displayed on this occasion a trait worthy of notice. They were without meat, or anything to eat. We were without meat, but had a little flour left from our small stock of provisions. These being the first fish caught by any of the party, they insisted on our taking them, which we refused; but still insisting, we were compelled to accept them.[68]

Mullan attributed this “boundless generosity” to the moral compass of his guides. “I cannot say too much in favor of these noble men who were with us; they were pious, firm, upright, and reliable men; in addition thereto, they entertained a religious belief which they never violated.” The guides’ humble gratitude -- their apparent equanimity in the face of both bounty and scarcity -- was doubtless shaped by their cultural norms of hospitality, rooted in tribal gift-

Pend d'Oreille head chief *Tmłx̌cín* (No Horses), known in English as Alexander, 1855. Drawing by Gustavus Sohon, courtesy National Anthropological Archives, Smithsonian Institution.

giving traditions. But those traditions, it is important to note, were themselves intertwined with a particular mode of subsistence and a particular ecological context -- an array of resources that combined the cyclical abundance of some foods with the year-round availability of fish. Mullan noted that his Salish and Pend d'Oreille companions "all knew the country well, and made excellent guides and good hunters." In a separate report, Mullan wrote of one of the guides, "Palassois is a great hunter. He has kept the party supplied with game. He goes, also, in advance of the party in the morning, and at noon awaits them with a string of trout."[69] Part of the relaxed and selfless nature of Mullan's Salish guides came not only from their moral fiber, and their culturally defined sense of reciprocity, but also from their long-ingrained sense that if food was not present today, it would be there tomorrow. "When they could not find fresh meat," wrote Mullan, "they accepted the remnants from our scanty table with the greatest humility and contentedness."[70] It was the same humility, the same acceptance -- the same confidence in their ability to procure food -- that Samuel Parker had observed among the Nez Perce and that Gregory Mengarini had seen in Francois Saxa and the Salish party at Fort Hall.

Clearly, the abundance of fish in the Northern Rockies contributed greatly to the reliability of tribal modes of subsistence, and thus the sense of security among Indian people so often reported by the early visitors. Many of those journals and reports tell of the numbers and size of trout -- especially bull trout -- across western Montana and northern Idaho. And unlike their observations of game, the reports on fish did not note constant variations in populations, with abundance one day and scarcity the next. Again, there were certainly seasonal spawning runs of great numbers of bull trout, cutthroat trout, mountain whitefish, and others -- but there were also adequate supplies of fish throughout the year. Although it can be difficult to establish clear patterns from the anecdotal records of the fur trade, it seems clear that fish were present almost everywhere and almost all the time -- and of vital importance to the indigenous people of the region. In April 1832, the fur trapper Nathaniel Wyeth was making his way up the lower Clark Fork, just upstream from Lake Pend Oreille, and noted that "my Indian brought me in some onions and two kinds of trout. Some of the trout I have bought of the Indians as large as 10 lbs. They are plenty and taken with the hook."[71] In July of 1831, Wyeth was in what is now northwestern Wyoming, where he "sent 3 men down the creek fishing," and in just a few minutes they came back with "21 Salmon Trout."[72]

Pierre-Jean De Smet wrote in similar ways of the widespread plentitude of fish in Salish-Pend d'Oreille aboriginal territories:

> ...the Flat-Head river...The Flat-Head lake...Clark's fork...Lake Kalispel [Pend Oreille]... Lake Roothaan [Priest Lake]...the St. Mary's, or Bitterroot river.... All these waters contain an abundance of fish, especially trout.[73]

Of all the archival records of the nineteenth century, the most detailed and comprehensive information on the ecological condition of tribal territories in the nineteenth century is contained in the exploratory reports of Isaac Stevens, including not only Mullan's records, but also the separate botany and zoology reports authored by naturalist George Suckley, compiled mostly from observations made in 1853 and 1854. The reports are full of descriptions of rivers, streams, and lakes filled with fish. Speaking of the entire region, Stevens says, "The country is abundantly watered with clear mountain streams, with pebbly beds; and lake and stream abound with fish."[74] The "headwaters of the Blackfoot fork, a branch of the Hell Gate river [the Clark Fork]" were reported as being "full of mountain trout" in September 1853.[75] That same month, "fine trout, two feet long, were caught in Deep [Smith] river" by Mullan's Salish guides.[76] In May 1854, the Thompson Lakes "abound[ed] in fish."[77] "The waters of the Kootenaie river afford [the Kootenai people], at all seasons, a bountiful supply of the salmon-trout," and at Tobacco Plains, observers reported in April 1854, "the waters always supply the Indians with abundance of excellent fish."[78] Suckley traveled through the Bitterroot Valley in late fall 1853 and stated that "all the numerous streams abound in fine trout."[79] In November of that year, Suckley later found himself "just above Lake Pend d'Oreille [where] the Clark [Fork] river divides into three streams, which again unite, thus forming two or three islands" -- the same area where Nathaniel Wyeth had obtained bull trout in 1832. "One of these streams," Suckley noted, "is wide, shallow, and swift."

> Here the Indians annually construct a fence, which reaches across the stream, and guide fish into a wier [sic] or rack, where they are caught in great numbers. To the natives this is a place of great resort.[80]

Suckley stressed that it was not just the seasonal runs caught in the weirs that were of importance to the Pend d'Oreille: "In summer the Indians live principally on fish, which they catch not only be wiers [sic] and fish-traps, but by the hook and line and by spearing."[81] Stevens himself reported bull trout in the lower Clark Fork as he traveled upstream in July 1855, on his way to meeting the Salish, Pend d'Oreille, and Kootenai nations to negotiate the Treaty of Hellgate. "Leaving it [the Clark Fork River] at a point where there was a very fine bed of limestone, and continuing up a small tributary which flows in from the left, we reached the beautiful prairie where, in 1853, I made my noon halt and got some fine venison, as well as a salmon trout, from a little party of Indians."[82] The Flathead River itself, the Stevens report noted from observations made in October 1853, "abounds with fish, mostly salmon and trout, and the lake is probably also well supplied with them."[83] In April 1854, John Mullan recorded his observations of the Flathead Lake fishery following his stop at the mouth of the lake, where he had commented at length on bull trout. Mullan moved north along the west shore of the lake and soon arrived at present-day Dayton Creek, known in Salish as *Iɬíx*^{w}, a name that describes the woven, semi-transparent appearance of the fish traps that were traditionally placed in the stream. Mullan, struggling to represent the Salish language, wrote that it was "called the 'Eclehu'...."

> Here we found encamped four lodges of Pend d'Oreilles.... The Indians here camped, as those we met on yesterday, were engaged in fishing for the salmon-trout. They had traps set, and had been very successful.[84]

Again and again, it is not only the abundance of fish that struck the visitors, but more specifically, the abundance of bull trout. Continuing north along the lake, Mullan's party

"crossed three small brooks emptying into the lake, in one of which we found a fish weir, set by the Indians, for catching the salmon-trout."[85] Everywhere Mullan traveled, he seemed to encounter more evidence of the plentitude of bull trout, and of tribal dependence upon them. The Stevens reports, it should be emphasized, reflect this bounty at all seasons -- the examples we cite here not only provide evidence from many of the major lakes and rivers of Salish and Pend d'Oreille territory, but also from every season.

On west shore of Flathead Lake, looking southeast, 1853. Lithograph by John Mix Stanley, from Isaac Stevens' ***Narrative and Final Report of Explorations.***

For all the limitations of the journals of these early visitors -- for all their blindness to tribal ways of seeing and tribal ways of life -- they also provide us with valuable vignettes of the state of the pre-contact fishery in Salish-Pend d'Oreille territories, and repeated indications of the importance of this resource to Indian people. Even when they disparage their generous hosts as "naive" or "benighted," they unwittingly provide us with a sense of the relaxed confidence of hunter-gatherer-fishers in western Montana, and the role of bull trout in their prevailing self-assurance. But all of that was before their world was fundamentally changed.

Chapter 4: Bull Trout and Fishing in a Narrowing World

Before the arrival of non-Indians in western Montana -- before the transformation of the tribal world here -- bull trout, and fishing in general, did not provide the majority of the caloric intake of Salish or even Pend d'Oreille people in their diets. Fish did not even constitute a majority of the animal protein consumed over the course of the year. Bison, deer, elk, and other game filled that role. But because fish were always available, even during the harsh, long winters, and available in almost every part of the tribes' territories, they played a critical part in the success and stability of the hunting-gathering-fishing mode of subsistence that was practiced here for thousands of years.

That cultural world was to change in fundamental ways over the course of the nineteenth century. By the 1890s, tribal ways of life would be largely confined to reservations, as a wholly different set of social, economic, and ecological relations would be defining the aboriginal territories of the Salish and Pend d'Oreille -- and the habitat of bull trout.

In many ways, the cataclysmic changes of the nineteenth century were set in motion decades earlier -- long before the arrival in the region of non-Indians themselves (usually marked by the arrival of the Lewis and Clark expedition in 1805, although that party was preceded by the presence of occasional trappers). In the century and a half between 1650 and 1800, the Salish and Pend d'Oreille were deeply affected by a number of great changes. In particular, three transformative products of Euro-American society -- horses, infectious diseases, and guns -- all arrived in tribal territories well in advance of white people themselves. These three factors

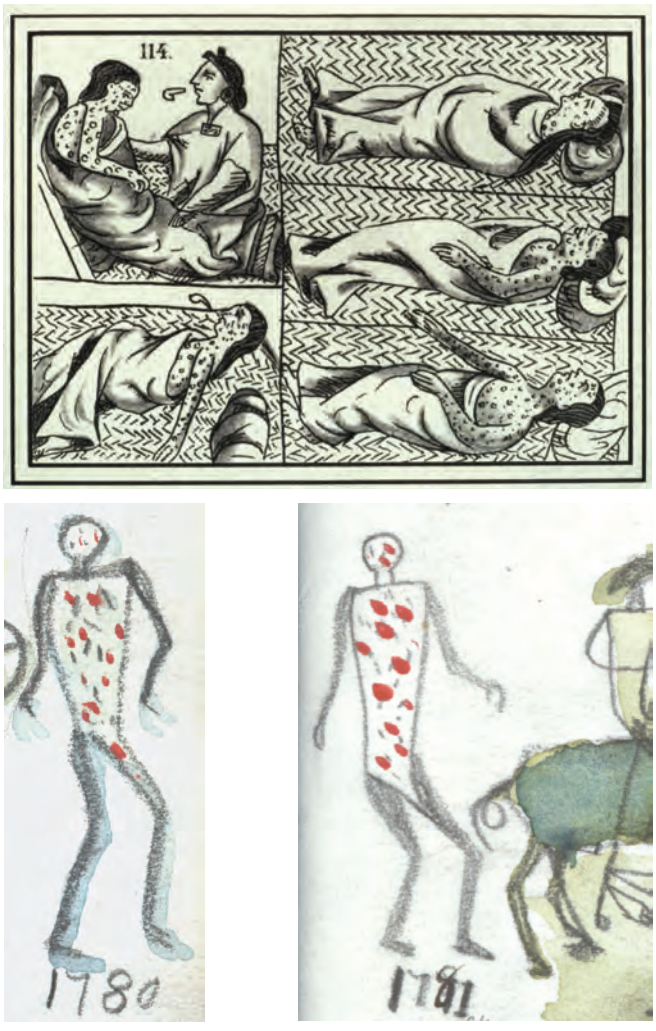
forever changed the tribal landscape -- altering tribal populations, tribal territories, tribal ways of life, and the dynamics of inter-tribal relations. This was still a Salish and Pend d'Oreille world -- but a vastly different world from the one that had existed in 1600 or 1500.

Sometime between 1680 and about 1730, the Salish and Pend d'Oreille acquired horses, which gave them much greater mobility, faster and farther access to buffalo and other foods and materials, and far better transport of those goods. However, the horse also made it easier to travel into the territory of enemy tribes. And horses themselves were a newly mobile unit of wealth, prestige, and power. Once stolen, they not only could be transported quickly -- they *were* the transportation. As a result, with horses came a marked increase not only in peaceful exchange between tribes, but also in conflict and warfare. Still, horses contributed what could be called quantitative change: more interaction (both peaceful and otherwise), more transport of people and goods, more intertribal trade. In a more qualitative sense, the Salish and Pend d'Oreille still lived much the same way, ate the same foods, and were organized under the same essential social and economic formations. For tribal people in the Northern Rockies, that kind

Two hundred years after their adoption by the Salish and Pend d'Oreille, horses remained a central part of tribal culture. Josephine Camille and her daughter Lucy, July 1906, Flathead Reservation.
Courtesy Montana Historical Society Research Center.

of deeper, more systemic change -- changes in the structural organization of their societies and economies -- did not occur until much later, decades after the arrival of Lewis and Clark.

This is true even though the introduction of horses was soon followed by devastating epidemics of introduced diseases, against which tribal people had little or no immunity. In fact, it is possible that the deadliest of all the European diseases, smallpox, may have swept through the Inland Northwest and decimated native populations in the early 1500s -- nearly two centuries before the first appearance of horses. That epidemic, if it happened, would have originated with the Spanish conquistadors in Mexico and spread northward through intertribal contact. In any case, it is clear that after horses had arrived in the Northern Rockies, repeated epidemics struck the various tribes throughout the 1700s and 1800s. The first documented massive smallpox epidemic in the Northern Rockies occurred around 1782, with utterly catastrophic consequences; some scholars have estimated that the mortality rate exceeded 75% in affected bands. Horses helped



Top: 16th-century Aztec depiction of smallpox.
From Bernardino de Sahagún, *Historia De Las Cosas de Nueva Espana* (1579), vol. 4, Book 12, Lam. cliii, plate 114.
Above: Depictions of smallpox victims, 1779-1780 and 1780-1781, details from Lakota winter count by *Wapostangi* (Brown Hat, or Battiste Good), b. 1821-1822.
Courtesy National Anthropological Archives, Smithsonian Institution.

disease spread; while infected people traveling on foot might have died before reaching a village, now, speeding along on horseback, the ill survived long enough to unwittingly spread their sickness to others. Historical demographers estimate that in the late eighteenth century, somewhere between half and three-quarters of the total population of Salish-speaking tribes died from introduced diseases. Oral histories tell of particular bands from which only a single person survived.[86]

By the time Lewis and Clark arrived, only 2,000 to 8,000 Salish and Pend d'Oreille people remained. Before the diseases, there were many members of these tribes -- how many is uncertain, and is the subject of wide-ranging research and debate among historians. It is not unreasonable to estimate that there were probably no less than 20,000 and perhaps as many as 60,000 Salish and Pend d'Oreille people, conservatively extrapolating from the earliest censuses taken of the tribes, the estimated losses among tribes in the region from eighteenth century epidemics, and the resource base within tribal territories.[87]

In addition to horses and disease, the introduction of firearms also changed the inter-tribal world. The Hudson's Bay Company began establishing trading posts on the upper branches of the Saskatchewan River in the late nineteenth century, including Cumberland House in 1774, Buckingham House in 1780, and Fort Edmonton in 1795. These posts provided ready access to firearms to northern Plains tribes, including the Blackfeet, who were the principal tribal adversaries of the Salish and Pend d'Oreille. The Blackfeet, then,

A British Tower .80-caliber musket dating to the 1770s.
Photo by Richard Strauss, courtesy Smithsonian Institution.

acquired guns at virtually the same time that epidemics were devastating the western tribes. The combined effect prompted dramatic changes in tribal territories. Before the epidemics, and before horses and guns, the Salish and Pend d'Oreille controlled nearly as much ground east of the Continental Divide as to the west. By the late eighteenth century the *Tuȟáχn*, a Salishan people who lived on the Rocky Mountain Front, were virtually exterminated by the combined effect of disease and repeated raids by Blackfeet equipped with firearms. The Blackfeet also pushed Plains Kootenai bands west of the mountains, and the Plains Shoshone bands similarly retreated south and west. The Salish, as well, were forced to relocate their winter camps into the western portion of their overall territories.[88] For the following 20 to 40 years, their warriors suffered heavy casualties in conflicts with the Blackfeet and other eastern tribes, until David Thompson and others established trading posts west of the mountains in the early nineteenth century and thus provided the western tribes access to guns and ammunition.[89] The Salish and Pend d'Oreille never surrendered their claim to the old country east of the mountains and continued to conduct buffalo hunting trips there, often twice per year. During the nineteenth century, as conflict with the Blackfeet and other tribes further intensified, the western tribes often banded together in large multi-tribal hunting parties to improve their security.[90]

Equipped with fine horses, the Salish and Pend d'Oreille also traveled more frequently to the salmon rivers downstream. But as we will see, as the cataclysmic changes of the nineteenth century unfolded, those more distant food resources became less accessible to the Salish and Pend d'Oreille. At that point, they could still turn to the diverse subsistence base of their central territory in the Northern Rockies. If anything, these three great changes -- horses, disease, and firearms -- pushed the Salish and Pend d'Oreille into a position of even greater

dependence on the fish that were so plentiful in the waters west of the Continental Divide. And the presence of that resource was doubtless one source of the remarkable resilience these communities showed in the face of such debilitating losses.

What made the fisheries of western Montana and northern Idaho even more important during this difficult period of the tribes' history was the sweeping incursion into the region by the fur trade. In 1809, David Thompson of the North West Company established the area's first post of any note, Saleesh House, near present-day Thompson Falls -- a place of ancient importance to Pend d'Oreille people (known as *Sc̓eyłk*^{w}*m*, an onomatopoetic name referring to the sound of water going over the falls). The fur trade introduced to the Northern Rockies a new and alien economic system powered by a wholly different set of social arrangements and cultural beliefs. For the first time, animals were being seen, and killed, as commodities -- not to be used directly by hunters and their communities, but to be sold for profit in an unseen international marketplace. Through the 1810s, the Northwest Company and the Hudson's Bay Company trapped the mountains with increasing intensity. The Salish and Pend d'Oreille generally maintained peaceful relations with the trappers, but they never showed much interest in working in this new system of work and reward. The tribal economy still functioned well

Tipis at the confluence of the Thompson and Clark Fork Rivers, near *Sc̓eyłk*^{w}*m* (Thompson Falls), 1884.
Photograph by Francis Haines, courtesy Montana Historical Society Research Center.

enough, and tribal people still were able to live comfortably by their traditional ways -- thanks in part to the continuing abundance of fish in their territories. While some Salish and Pend d'Oreille men engaged in trapping to meet their limited needs for market goods -- most often, firearms, ammunition, or a few simple trade items -- most lacked much motivation to labor intensively for the outsiders.[91]

That disinterest, combined with the armed resistance to the fur trade presented by some other tribes in the region, led Hudson's Bay to abandon their effort to recruit Indian trappers, and instead deploy "fur brigades." These self-contained units did all the trapping and doubled as paramilitary forces. At that point, the notion of the fur trade as an "invasion" of native territories became a more literal reality. In 1821, Hudson's Bay absorbed the Northwest Company and focused on fending off competition from American trappers coming in from the east and south. In the following decade, the company intentionally trapped out the territories of the Salish, Pend d'Oreille, and neighboring tribes in an attempt to create what they called a "fur desert" that would discourage the approaching American trappers and keep them out of more northerly areas.[92]

Recovery from the fur trade: beaver pond in Glacier National Park, 1994. Photo by Joe Weydt.

The policy was extremely effective. From 1823 to 1832, Hudson's Bay's fur brigades scoured the country every year under the command of chief factors Alexander Ross, Peter Skene Ogden, and John Work.[93] In the Northern Rockies, the height of the fur trade ended by the early 1840s due to the extermination of so many animals. The fur brigades decimated not only beaver, otter, and other fur-bearers, but also deer and other game, at least in certain areas. Historians are still trying to understand more precisely the ecological and social effect of Hudson's Bay's policy, but it seems clear that it caused serious harm to tribal resources and the ability of tribal people to conduct their traditional mode of subsistence. As resources west of the mountains were depleted, western tribes had to conduct buffalo hunts east of the mountains with increasing frequency and for increasing periods of time -- and this led to intensifying conflict with the Blackfeet and other eastern tribes.

Through the difficult decades of the early nineteenth century, however, the Salish and Pend d'Oreille could still rely, as ever, on bull trout and other fish. It seems likely that on the whole, the near-extirpation of beaver and other animals in certain areas had a negative cumulative effect on bull trout and other native fish.[94] But they continued to be available in great numbers to tribal people, at least for a while, and their importance as a safety net for tribal people only increased during this period.

Due in part to the fishery resource, then, tribal ways of life remained the dominant cultural system in the Northern Rockies -- and still stood in opposition to the market culture the fur traders wanted to establish. By the 1830s, some frustrated industry leaders began to see

Christian missionaries as the answer to their problems. Hudson's Bay Governor George Simpson said,

> The effect the conversion of the Indians might have on the trade...would be highly beneficial. They would in time imbibe our manners and customs and imitate us in Dress; our Supplies would thus become necessary to them which would increase the consumption of European produce & manufactures and in like measure increase & benefit our trade as they would find it requisite to become more industrious and to turn their attention more seriously to the Chase in order to be enabled to provide themselves with such supplies; we should moreover be enabled to pass through their lands in greater safety which would lighten the expence of transport...[95]

In Simpson's vision, Christianity would reshape the native people from sovereign nations -- defending their territories and posing obstacles to the operation of the fur trade -- into subservient workers and consumers dependent upon Hudson's Bay. The Jesuits may not have articulated their objectives in the same way, and they only arrived after the height of the fur trade had passed. But as we have seen, they openly declared their hope that Indian people would abandon their own way of life. They first established a mission in 1841 in the Bitterroot Valley, near the Salish winter camps that Eneas Pierre described at

Tipis at St. Mary's Mission, *Łq̓eɬmlš* (Stevensville), 1884.
Photograph by Francis Haines, courtesy Montana Historical Society Research Center.

Łq̓eɬml̓š (Wide Cottonwoods – present-day Stevensville), and in 1854 they began building the St. Ignatius Mission at *Snyel̓mn* (Place Where You Surround Something).

The establishment of St. Ignatius prompted Isaac Stevens, during the Hellgate Treaty negotiations the following year, to make the mission the geographic center of the area that he proposed as the Jocko or Flathead Indian Reservation. Tribal leaders, led by the Salish chief *X*^{w}*eɬx̓ƛ̓cin* (Many Horses), had been told that Stevens wanted to meet to create peace between all people in the region, and put an end to the deadly raids of the Blackfeet and other enemy tribes west of the Continental Divide. The chiefs, who had always maintained peace with non-Indians and even fought beside them against the Blackfeet, had welcomed this objective. But now, as they met at the place called *Člmé*, they were perplexed. Stevens' primary purpose, it turned out, was to take formal ownership of Salish and Pend d'Oreille lands. A Salish leader named Moses remarked, "If I go in your country and say, 'Give me this,' would you give it to me?.... I have nothing to say about selling the land." And one of the Pend d'Oreille leaders, *Nqelʔe* (Big Canoe), bluntly told Stevens, "Go back to your country...we never spilt the blood of one of you."[96]

Isaac Stevens.
Courtesy University of Washington Library, Special Collections.

As in his treaty negotiations with other tribes in the Northwest, Stevens aimed to concentrate numerous tribes onto a single reservation, thereby clearing the way for non-Indian control and settlement of as much land as possible. But the Pend d'Oreille and Kootenai wished to retain their territories in the Jocko and Mission Valleys and the Flathead Lake area, and Chief Victor insisted that the Salish would never give up their homeland in the Bitterroot Valley. Stevens tried to pressure the leaders, but they refused to change their minds. It is unclear, in any case, how much of what Stevens said -- let alone what was written on paper -- was understood at the time by the Salish, Pend d'Oreille, and Kootenai who were present. Father Adrian Hoecken, a Jesuit observer, remarked that the translation was so poor that "not a tenth of it was actually understood by either party."[97] In any case, the final document did set aside two "reservations" for the tribes' "exclusive use and benefit."

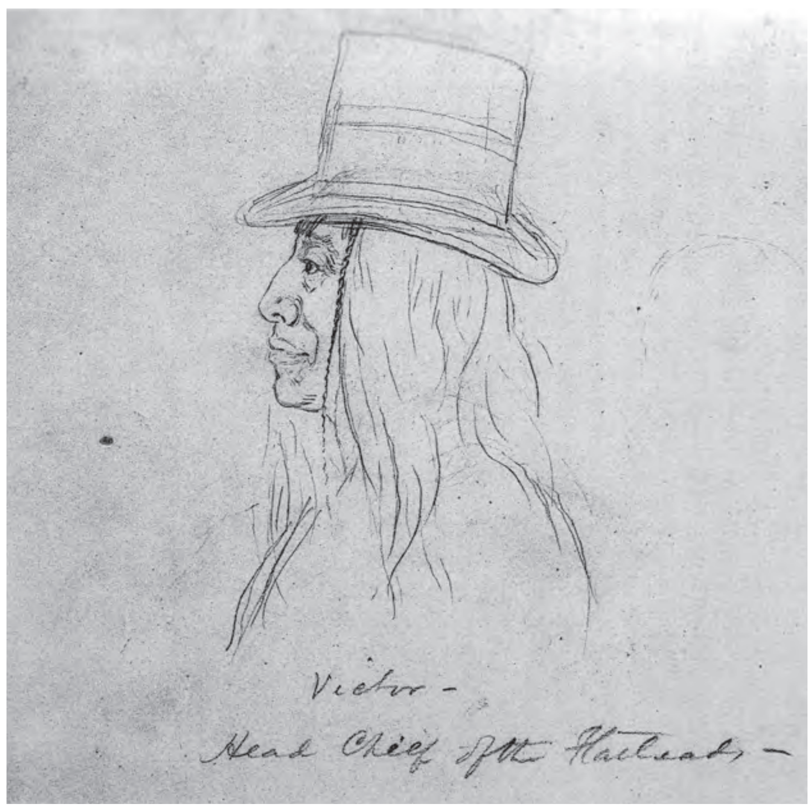
Hellgate Treaty Negotiations, *Člmé* (Council Grove), July 1855.
Gustavus Sohon drawing, courtesy National Anthropological Archives, Smithsonian Institution.

From the numerous statements made by tribal leaders to U.S. officials in the months leading up to the Hellgate negotiations, it is clear that the tribes' primary interest in participating in the

treaty meeting was security. And in 1855, this necessarily included not only peace with the Blackfeet, but also the right to live by their traditional ways, both on and off the reservation. Indeed, the treaty guaranteed the tribes' right to hunt, gather, graze their horses -- and fish -- across all of the ceded lands, as expressed in Article 3:

> The exclusive right of taking fish in all the streams running through or bordering said reservation is further secured to said Indians; as also the right of taking fish at all usual and accustomed places, in common with citizens of the Territory, and of erecting temporary buildings for curing; together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land.

Much of the language in the Hellgate Treaty reflects the boilerplate used by Stevens in other treaties throughout Washington Territory. And we have heard about the severe translation problems during the negotiations. But there are also unique aspects to the treaty, and the minutes contain many examples of tribal leaders resisting the efforts of Stevens to gain their assent to a number of provisions. Clearly, the tribes exercised some agency in the outcome of the



Salish head chief *Xʷeɫx̣ƛ̓cín* (Many Horses), known in English as Chief Victor, 1855.
Drawing by Gustavus Sohon, courtesy National Anthropological Archives, Smithsonian Institution.

treaty. Given the importance of bull trout and other fish within the Salish-Pend d'Oreille mode of subsistence, it would certainly seem that the chiefs would insist upon securing the tribes' right to fish -- everywhere, as they always had. The treaty also guaranteed that tribal members would have the "exclusive" right to fish within the Flathead Reservation and even in streams "bordering" the reservation. It would seem that the chiefs felt this unusual provision was of vital importance in their effort to protect the well-being of their people.

Stevens himself provides us with some evidence, in his *Report of Exploration*, of how the decimation of land animals through the years of the fur trade had only increased the importance of the fishery to tribal people. Along the upper Clark Fork River, Stevens' lieutenant, John Mullan, reported in the winter of 1853-54 on "the scarcity of game, which latter we found scarce again to-day, only one or two antelopes being seen in the valley." But when they "nooned on the right bank of this stream...one of our Indians caught a string of fine mountain trout." In a landscape of declining game, fish were more than ever the saving food. "In nearly all the brooks and streams that we have met in the mountains thus far," Mullan wrote, "we have found an abundance of fine trout; thus always affording us something for our table."[98] And in the spring of 1855, Mullan found himself encamped at one of the ancient camp areas of the Pend d'Oreille people. "We encamped at the north end of the [Flathead] lake," Mullan said.

> Our camping-ground of this night was represented to me by the Indians as a great resort for their tribe and the half-breeds of the country some years ago, as in the mountains bordering the lake immense numbers of deer and elk were found, while the lake afforded its usual abundance of excellent fish, but now little if any game is found throughout the whole region; yet this beautiful lake has lost none of its pristine character in yielding to the fisherman a rich and abundant harvest at all seasons."[99]

Amid the growing loss of resources, Pend d'Oreille people could continue to find fish in their "usual abundance" in Flathead Lake, the heart of their territory. And as Mullan noted, of all the "excellent fish" in "this lake, and also the Clark's fork," "the most abundant" were "the salmon-trout."[100]

The Hellgate Treaty would provide the political and legal framework for even greater and more devastating changes in coming decades for Indian people in western Montana. Through all of that, fish remained a resilient resource that helped fuel the resistance of the tribes in their efforts to maintain, in some form, their cultural practices and their traditional mode of subsistence. By the 1870s, as the bison were virtually exterminated and as non-Indian settlement gradually spread through the western valleys, Indian people occupied an ever-narrowing world. Trips to fish, hunt, or gather plants outside of the Flathead Reservation were increasingly met with non-Indian opposition and, at times, violence.

Within the reservation during the late nineteenth century, some government officials began to recognize the critical dependence of tribal people on fish. In September 1870, First Lieutenant George E. Ford, the U.S. Indian Agent for the Flathead Reservation, wrote his superior that "Unless the fall hunt proves more successful than that made last summer, I am afraid that it will be necessary to call on the Department for aid during the coming winter." Ford thought it was critical to secure food supplies as soon "as the ground becomes frozen so they can get no roots, and the fish leave the Jocko [River] and go into deep water for the winter."[101] Ford was accurately describing the seasonal movement of fluvial and adfluvial bull trout; by December, having completed spawning in the Jocko, they would have moved back downstream to the

mainstem rivers or Lake Pend Oreille. Until this time, tribal groups would have been free to locate their winter camps in the best locales to secure bull trout and other fish, and they did just that, as evidenced in the remarks of Eneas Pierre, John Mullan, and others. By 1870, however, the Salish living in the vicinity of the agency had become more permanently settled in cabins (at the urging of the government and the missionaries) and were therefore less able to move their community with the seasons. In any case, the world outside the reservation was becoming progressively less accepting of such seasonal migration. Ford's letter documented both the continuing importance of bull trout to the Salish, and also the onset of tribal dependency, due in part to their restricted access to fish and other resources.[102]

Even in a world of such rapidly dwindling traditional food resources, tribal people in the Arlee area could get by without help from the government as long as they had access to that one remaining abundant source of animal protein: fish in the Jocko River.

What the Jocko held in particular abundance, as the letters of longtime U.S. Indian Agent Peter Ronan show us, were bull trout. Ronan was an avid fisherman, and he was also an old friend of the territorial governor during the 1880s, Samuel Hauser. Once the Northern Pacific Railroad was completed in 1883, Ronan would occasionally fish for bull trout in the Jocko and ship them by rail express to Helena, where Hauser would eat them for dinner. Fortunately, Ronan was a proud enough fisherman to also record, in the enclosing letter, the size of his catch. These letters provide a valuable glimpse of the state of the bull trout fishery that populated the Jocko River 125 years ago. On September 5, 1883, for example, Ronan wrote to Hauser, "Today I send you by express five trout taken from the Jocko this morning. I do not think

Agent Peter Ronan and family at Jocko Valley residence, 1884.
Note boy with fishing pole.
Photograph by Francis Haines, courtesy Montana Historical Society Research Center.

any one of them will exceed ten pounds. They are rather "small fry" for this part of Montana...."[103] A month later, on October 8, Ronan sent another letter to Hauser -- inquiring about the fish he had sent a couple of days earlier: "I forwarded to your address on Saturday night two Jocko trout. I think the largest one weighed fourteen pounds." The trout were apparently an effective way for an Indian agent to get in the good graces of his political superiors, for Ronan said he also intended "to express...a couple of Jocko trout" to Senator G.G. Vest, the chairman of the Indian affairs subcommittee. The fish were so big that "Vest claims I am mistaken in calling them trout and the dispute is to be settled in Washington over a dinner from one of the fish."[104] In August 1884, Ronan wrote Hauser again about some bull trout he had recently shipped to Helena:

> One week ago last Saturday night, at half-past nine, I put a spotted trout into a box dripping from the Jocko, and placed it in charge of Wells Fargo & Co's messenger, with expectation that it would be delivered in time for the Hauser Family to enjoy a good Sunday dinner. As the trout weighed on the scales just fourteen pounds and three quarters and was a 'speckled beauty,' I am just a little anxious to know if you received it all fresh and nice as I thought you would.[105]

Ronan's papers are useful not only for his measurements of bull trout in the Jocko River, but also for his remarks on the increasing importance of fish in the winter diets of tribal people on the reservation. On February 23, 1887, Ronan wrote to the Commissioner of Indian Affairs about the "suffering among the Kootenai band" due to deep snow. "They depend greatly in the winter," Ronan said, "upon hunting, and fishing through the ice upon Flathead Lake, but the snow will prevent them from securing or following game for the use of their families."[106] If, as Ronan notes, the unusually deep snow was preventing tribal people from doing much winter hunting, we must presume that the Kootenais, in that late winter of 1887, had to rely even more upon fish for the protein in their diet. Fish had always been a critical bulwark against food shortages when hunting failed; their importance for tribal sustenance only increased as game populations were depleted.

In 1891, U.S. Fish Commission biologist Barton W. Evermann conducted an examination of the fisheries in many of the rivers and streams in western Montana, including seining of most waterways. His report painted an unambiguous picture of the continuing abundance of fisheries within the Flathead Reservation. Flathead Lake, he reported, was "as well supplied with fish as any body of water in the State," including "mountain trout," "salmon trout or bull trout," suckers, northern pikeminnow, and whitefish. On July 31, Evermann found "trout quite abundant" in the Jocko River, as well as sculpin, whitefish, and suckers; he was told of the numerous bull trout but didn't catch any during his brief visit. Other major streams of the reservation, including Mission Creek, Post Creek, Crow Creek, and Mud ("Muddy") Creek, were all "well supplied with trout."[107]

During the late nineteenth century, the growing non-Indian population in the Flathead region also turned to fish for sustenance -- and also, unlike tribal people, for sport. While they reported that the "fishing has been gradually but surely deteriorating," they also provide detailed accounts that suggest the continued abundance of the resource. The Kalispell *Inter Lake* described "large schools of untold thousands in the beautiful Flathead River." In January 1890, the paper reported that "a party of four from this place were out but a short time on the river, and not withstanding the fact that the day was raw and cold, some returned with over 200 pounds of fine salmon trout." On that day, a doctor who had recently moved to the Flathead was able to "land a twenty-pounder." In May 1898, the *Inter Lake* noted, "The salmon trout are reported plenty at the mouth of the Big Fork and some fine catches have been made recently by trolling. The fish are not of the largest size, running only from 8 to 12 pounds, but there is lots of 'go' in them." In November 1899, the *Inter Lake* said that "the rapids in the Big Fork have been lined with fishermen for several weeks, and no end of fish have been taken." As tribal elders have recounted, Bigfork was a place still used at that time by many Pend d'Oreille people for fishing, plant gathering, and camping during the journey from the Mission Valley to the hunting grounds and huckleberry patches of the Swan Valley. It is called, in Salish, *Nq̓eyłk*^{w}*m* -- an onomatopoetic term referring to the sound (*q̓eył*, *q̓eył, q̓eył*) of water going over the falls of the Swan River.

Throughout the 1890s and into the 1900s, the *Inter Lake* also published stories of non-Indians harvesting great quantities of other fish -- particularly whitefish -- on rivers throughout the Flathead Valley. A story from April 1903 vividly painted the scene on the Stillwater River, where "there are so many fishermen that the fish poles make the banks look like a canebrake."

And two years later, in April 1905, the *Inter Lake* noted that "Fishing has been unusually good the past ten days, and some big catches are reported. W.C. Lyman and Ham Lee brought in 56 big trout from Ashley Lake, and David Ross dragged out 51 from a bay on the east shore of Flathead lake in a couple of hours. Hundreds have been caught at the Stillwater dam, and the fishermen who have been haunting the banks of the Flathead bring in full baskets."[108]

Reports from other parts of the aboriginal territories during this era also indicate a continuing plentitude of bull trout. In 1915, for example, the Northern Pacific Railway published a nicely illustrated little booklet entitled *Fishing and Hunting on the Headwaters of the Columbia in Northern Idaho*. The document is obviously an example of railroad boosterism, and we should read its descriptions of abundance skeptically. But in an article within the booklet entitled "Fish and Game Up Lightning Creek," L.H. Whitcomb makes the rather specific claim of having "hooked a twelve-pound char on a Number 8 fly with a small trout minnow" in August 1914. "The Dolly Vardens, or Char [both common terms for the bull trout of Lake Pend Oreille], make a run up the creek during the spring freshet and again in August," wrote Mr. Whitcomb, "at which time they are readily taken with live minnows, and often with flies." While we might raise an eyebrow at Mr. Whitcomb's assertion that "there is [not] another stream anywhere in the United States that will yield such numbers of trout as Lightning Creek," we can be reasonably confident that there was no scarcity of fish, or in particular bull trout, in that stream.[109] Like so many other places noted by non-Indian fishermen, Lightning Creek was a place of ancient importance to Salish and Pend d'Oreille people, and bears a tribal name -- *Nɬeʔsl̓étkʷ*, meaning Place of Two Small Creeks.

Tribal elders have similarly noted that at the turn of the century, there was very little game remaining on the reservation -- but people could still turn to fish, as well as native plants, for sustenance. *Ta epł xʷixʷeỷúł ye lˀe łu t sq̓si*, Pete Beaverhead said. “There were no game animals here a long time ago.”

Ta epł c̓uˀúlixʷ, ta ep sne.	There was no deer, no elk. All there was for
Čmi u sẇeẇł łu es tiˀixʷms	them to gather was fish --
-- łu sp̓iqałq, łu soxʷep.	and berries and roots.[110]

Mr. Beaverhead, Agnes Vanderburg, and other elders from both the Pend d’Oreille and Salish tribes have noted that during those early years of the twentieth century, during late winter -- Lent, for the many tribal adherents of the Catholic church -- “all they did was fish.”[111] Mr. Beaverhead told of many people forming a large fishing camp on Finley Point each year in March.[112] *Iše yapqeyṅ, yapqeyṅ łu sẇeẇł, x̣ʷỷu kʷtkʷtunt, pisł*, he said. “There used to be many, many fish -- big whitefish and trout.”[113] And Mr. Beaverhead, in his extended account of the fish traps that he remembered along Crow Creek, recalled the many Pend d’Oreille people who maintained them in the early twentieth century, including *K̓ʷiˀk̓ʷiˀscu, Toloti, X̣alx̣alk̓ʷu, Cṁšṅa,* and *Ṅyas Snúwe.*[114]

Crow Creek, Flathead Reservation, 1884.
Photograph by Francis Haines,
courtesy Montana Historical Society Research Center.

The continued abundance of the fisheries within and near the Flathead Reservation at the turn of the twentieth century was also noted by University of Montana professor of biology Morton Elrod. In *A Biological Reconnoissance* [sic] *in the Vicinity of Flathead Lake* (1902), Prof. Elrod reported not only that Crow Creek was "a famous fishing resort" (and the route of one of the tribes' principal trails across the Mission Mountains), but also that other streams and lakes were both full of fish and greatly valued by tribal people: McDonald Lake ("a great resort for the Indians and those who visit the reservation, on account of the excellent fishing and beautiful scenery"); the Swan River ("a great fishing resort"); Swan Lake ("fishing is good"); and perhaps most of all the falls of the Pend d'Oreille (Flathead) River -- the future site of Kerr Dam, and the area where John Mullan had so vividly recorded the importance of bull trout to tribal people a half century earlier. It remained so in 1900 and 1901, when Prof. Elrod visited the falls: "This is a great fishing resort for the Indians on the reservation, and one seldom visits the place without seeing several tepees on the bank some place near."[114b]

Tribal people relied even more on the fisheries within the reservation not only because of the depletion of game, but also because it was becoming increasingly dangerous to exercise their treaty rights to practice the traditional ways on ceded lands outside the reservation. Many non-Indians greeted Indian hunting, gathering, and fishing parties with hostility, and Montana's new system of game wardens did not recognize the primacy of tribal people's treaty rights. In the tragic incident known as the Swan massacre of 1908, this rising tension culminated in a game warden and a deputized civilian killing four members of a Pend d'Oreille family hunting party in the upper reaches of the Swan River, immediately east of the Flathead Reservation

boundary. The warden was himself killed in self-defense by one of the women in the party.[115] The climate of racially charged violence dissuaded increasing numbers of tribal people from partaking in off-reservations trips, even though many families were in dire need of the food they could obtain -- and even though the resources inside the reservation were dwindling and those outside were in some areas more abundant.[116] The Swan Valley itself was home to exceptional fish populations. Ken Huston, an early non-Indian resident of the Swan Valley, recalled the vast numbers of bull trout that spawned at the forks of Elk Creek, a tributary of the upper Swan River, in the early to mid twentieth century:

> "When I was a kid, hundreds and hundreds of bull trout in Elk Creek. They were just laying like cordwood up there. Up there just below where they spawn. Waiting to go up and spawn. Hundreds and hundreds of bull trout...I spent years and years and years up there as a kid. Every fall I'd go up there and get my eight, ten bull trout and come out.... them fish up there...spawning, fanning their beds... Look in them big holes and see hundreds and hundreds of them bulls. They was so beautiful. They're bright spawning colors. Just laying there. Just like cord wood. Prettinere laying one on top of the other. Look like a big salmon run, you know."

Butch Harmon, born in 1941 and an avid observer of bull trout in the Swan Valley, recalled seeing bull trout in Elk Creek at lengths approaching four feet, and caught one that measured 33 inches. And Ed Beck, an early non-Indian settler in the Swan Valley, recalled that in the early twentieth century, the fish swarmed "every riffle in the summer...they were cutthroats.... And there'd be just a black cloud...and the big ones, there'd be big ones, too.... You could see the big ones.... There was bull trout and cutthroats, and whitefish."[117]

Throughout the decades of the late nineteenth and early twentieth centuries, tribal people fought to defend their rights to hunt, fish, and gather in their aboriginal territories. In the face of their persistent but disciplined assertion of these rights, even Agent Ronan was compelled to ask the Commissioner of Indian Affairs how he could justify "holding peaceable Indians upon their reservations who claim the right to hunt and fish 'according to the treaty' of the same, and against whom there is no authenticated complaint of committing any crime save to cross the boundary of their reserve line to hunt and fish for a few weeks after the harvesting of their crops."[118] Two years later, Ronan wrote, "When Indians apply to me for written permission to hunt outside of the reservation, I discourage the idea, but find that with or without permission the hunters go. I believe it the proper policy to pursue to break up their nomadic habits, but in the face of the third article of their treaty as above quoted, I see no other method than that of persuasion."[119] And each year, Ronan and his successors as Flathead agent received the same complaints from other Montana officials who saw no reason why they should tolerate such "habits." "I have on

Non-Indian visiting Salish men at fishing camp at *Nɬ?ay* (Place of Small Bull Trout -- Rattlesnake Creek near Confluence with Clark Fork), n.d., ca. 1900.
Morton Elrod photo, courtesy Archives and Special Collections, Maureen and Mike Mansfield Library, University of Montana - Missoula.

hand the usual crop of Flathead Indians, their families pappooses & ponies," wrote C.F. Lloyd, the Adjutant General of Montana, in 1889. "Will you kindly see that they go home & stay there."[120]

Tribal people nevertheless continued to press for the recognition of their treaty hunting, fishing, and gathering rights. For decades, Salish leader Sam Resurrection had younger literate tribal members help him write to officials in Washington, indefatigably protesting the government's failure to honor the promises made in the Hellgate Treaty. In letter after letter, in spite of the barriers of language and literacy, Resurrection spoke of the rights denied to tribal people -- nearly always including not only the right to hunt and to gather plants, but also the right to fish. On November 14, 1914, he mentioned not only that the signers of the treaty retained the right to hunt "all the wild game," but that also "the lakes, rivers and springs were reserved by the twelve chiefs. Everywhere I wanted to go hunting and fishing outside the reservation, it was supposed to be free. It was reserved by the twelve chiefs,

Sam Resurrection, c. 1915.
R. H. McKay photo, courtesy Archives and Special Collections,
Maureen and Mike Mansfield Library, University of Montana - Missoula.

bitterroot, camas, and wild carrots, and also Indian fruits. The twelve chiefs told the white people not to be stingy with the cherries, etc., berries of all kinds...."[121] Resurrection pressed on, even as he acknowledged that in his efforts to express "our little wants," he and other tribal members "are simply laughed and joked of and sometimes jeered at, then passed over."[122] The Assistant Commissioner of Indian Affairs, E.B. Merritt, replied by telling Mr. Resurrection, "you are a bad influence," and then threatened that "unless you lead a better life and cultivate your land, it is possible you will get into serious difficulty."[123]

Mr. Resurrection and many other tribal members, however, continued to protest the denial of their rights. They also continued to exercise those rights -- fishing, hunting, and gathering as much as they could given their radically changed circumstances. They expected that for all the losses suffered by tribal people, for all the constriction of their resource base and the repression of their way of life, there would always be fish -- and there would always be plentiful bull trout. But even that was not to be.

Chapter 5: The Decimation of Bull Trout

The history of bull trout in western Montana must be understood, in the largest sense, as a history of systemic transformation -- a change from one way of life, one way of relating to the land and its resources, to another. There was perhaps no more important turning point in that historical transformation than the construction of railroads into Montana, which began with the opening of the Utah & Northern Railroad into Butte in late December, 1881.[124] In September 1883, railroad workers pounded home the last spike of the Northern Pacific at Gold Creek, Montana, marking the completion of the rail line across the northern tier of the United States -- and through the Flathead Reservation itself, over the bitter objections of tribal leaders.

Railroads decisively shifted the balance of power in Montana. It was no coincidence that 1883 also marked the virtual extinction of wild bison. Among the first mass exports on Montana's rails were buffalo bones, shipped to eastern plants where they would be rendered into fertilizer and charcoal. It was the railroad, finally, that marginalized the Indian way of life that had defined the region for thousands of years. In the first half of the nineteenth century, the market economy's

NPRR's Marent Trestle near southern boundary of Flathead Reservation, 1884.
Photograph by Francis Haines, courtesy Montana Historical Society Research Center.

presence in the Northern Rockies was limited to the fur trade -- in part because transportation was limited to horses and canoes, which could only bring to market resources that were light in weight and small in size. The railroad changed all of that. Now size and weight posed no obstacle to the commodification of the natural world. The great trees of the forests, grain from the fields, and most of all, ore from the mountains could be developed on an industrial scale -- and delivered to national and international markets.[125]

It was mining -- most of all the sprawling operations of the Anaconda Copper Mining Company -- that delivered the first major blow to bull trout. Anaconda was formed by Marcus Daly in 1895 when he consolidated the wide-ranging pieces of his mining enterprises. In September 1884, Daly launched the Anaconda Reduction Works, processing the copper ore from Butte -- and in the process releasing enormous quantities of waste, laden with toxic heavy metals, into the Clark Fork River.[126] While placer mining along Silver Bow Creek had doubtless damaged the fishery as early as 1864, the scale of environmental harm now rose with the scale of the industrial operations. The smelters at Anaconda sent thousands of tons of arsenic, copper, lead, and zinc into the Clark Fork riverbed and the riparian environment, with lethal

Smelters at Anaconda, 1907.
From a stereoscopic image. Library of Congress.

consequences for bull trout and other native fish. In 1891, the U.S. Fish Commission's Barton W. Evermann observed that in the Clark Fork River near Deer Lodge,

> In some portions where the current is less swift the bed is made up of a constantly shifting mass of fine silt-like materials, probably from the concentrators and reduction works at Anaconda and Butte. Throughout the entire length of this river the water is full of this solid matter in suspension. The amount of solid matter carried down by the Deer Lodge River [i.e., the upper Clark Fork] from this source must be very considerable, and of course proves fatal to all kinds of fish life. We seined the river very thoroughly in the vicinity of Deer Lodge and did not find any fish whatever.
>
> This stream is said to have been well supplied with trout and other fish, but none have been seen since the concentrators began operations. Other life was also scarce; no living mollusks or crustaceans and but few insect larvae were seen.[127]

Evermann also reported that Silver Bow Creek -- the place once so abundant in bull trout of large size that it was known to the Salish and Pend d'Oreille as *Sntʔapqey*, referring to the harvest of bull trout there using bows and arrows -- was now a biological dead zone:

> Warm Spring and Silver Bow creeks are ruined by mining operations...Silver Bow Creek...comes down from the vicinity of Butte City, and its water has the consistency of thick soup, made so by the tailings which it receives from the mills at that city. No fish could live in such a mixture...[128]

Mining, particularly as it was conducted in the late nineteenth and early twentieth centuries, also required enormous quantities of timber. In his celebratory company history of Anaconda, Isaac Marcosson wrote, "As [Marcus] Daly embarked on big scale mining operations it was found that large quantities of heavy timber were required in the mines for supporting the rock of the stopes in the veins. The mines at Butte alone required from 40,000,000 to 50,000,000

board feet a year."[129] In the initial years of the Anaconda smelters, charcoal was used to fuel the processing of ore -- and it required some 300,000 cords per year, or 40,000 board feet of timber per day. To feed this staggering demand, Anaconda bought up over a million acres of timberland in western Montana, some from the Northern Pacific Railroad and some from the public domain. "Thus Anaconda brought the timber," wrote Marcosson, "from virgin forest down into the mines."[130]

For bull trout, the sudden explosion of industrial-scale logging was harmful in numerous ways. The clearcutting of old growth forests resulted in an increase in siltation in streams, rivers, and lakes -- and though the impact of the removal of trees during that period would be difficult to measure precisely, it seems certain that bull trout, with their need for particularly clean water, were adversely affected.[131] The logs also clogged the rivers as they were floated down to the mills, with what Fish and Wildlife Service biologists have called "an unquantifiable, but significant, impact on aquatic habitat," causing the erosion of streambeds, the gouging of banks, the straightening of channels, the blocking of side channels, and the destruction of woody debris and other cover in the river.[132] In 1891, the U.S. Fish Commission's Evermann "greatly deplored" the scale of the logging, and worried

Logs in Blackfoot River, 1908.
Courtesy Archives and Special Collections,
Maureen and Mike Mansfield Library, University of Montana - Missoula.

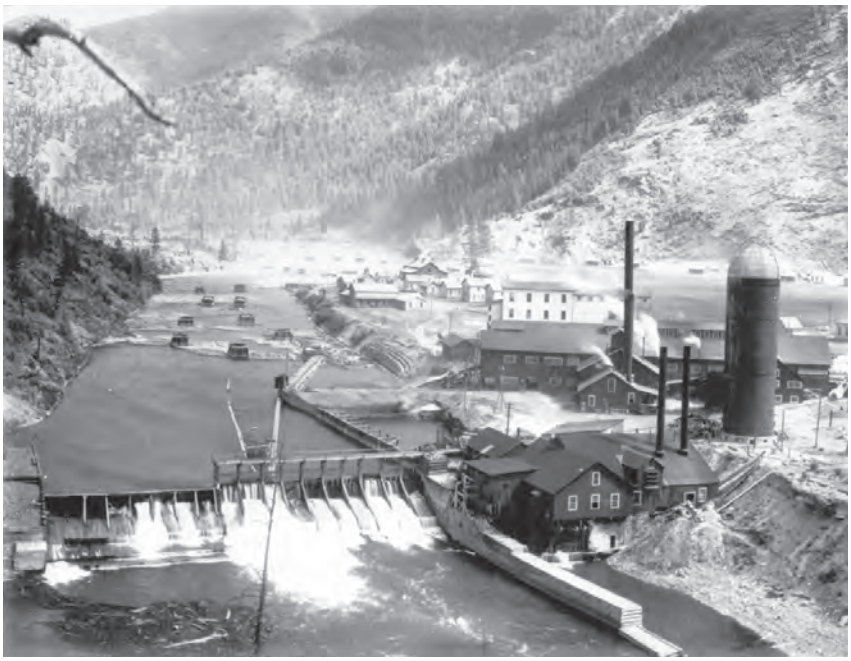
that "it will not be many years until these magnificent forests are wholly destroyed, the mountains made barren, and the volume and beauty of the streams greatly diminished."[133]

The mills to which the logs were being floated were also, in many cases, owned and operated by Anaconda. The company set up mills at Hope, Idaho, and at three places in Montana: St. Regis, Hamilton, and Bonner. All of Anaconda's milling operations were eventually centralized at the latter site, located on the Blackfoot River just above its confluence with the Clark Fork. This was the area known to the Salish and Pend d'Oreille people as *Nʔaycčstm* -- the Place of the Large Bull Trout. Eventually, the Bonner mill would process well over 100,000,000 board feet of timber per year.[134] In 1891, the U.S. Fish Commission's Evermann, observed that

> the [Blackfoot] river for 3 or 4 miles above the mill is literally filled with logs which have been cut from the heavily timbered country through which the river flows and which were being floated down to the mill. . . The mountains on either side are of highly metamorphic sandstone, and in most places densely timbered, but at the present rate of destruction it will not be many years until these magnificent forests are wholly destroyed, the mountains made barren, and the volume and beauty of the streams greatly diminished.[135]

By that time, the Big Blackfoot Milling Co. had already been operating for seventeen years. And when Marcus Daly, A.B. Hammond, Richard Eddy and E.L. Bonner first established the mill in 1884, they also built a dam alongside it to help corral logs floated down the Blackfoot River; by 1891, the dam was also producing electricity for the mill, and in 1896, that capacity was increased, with the excess power carried into the emerging community of Missoula by the newly formed Missoula Light and Power Company. The timber crib dam at Bonner stood 30

to 35 feet tall, and formed a "complete barrier to upstream migrating fish."[136] Beginning in 1884, then, the great populations of adfluvial and fluvial bull trout that had once grown large in Lake Pend Oreille and the Clark Fork River were denied access to the vast drainage system of the Blackfoot River, including the Clearwater River and Monture Creek -- the stream that John Mullan had understood from his Salish guides, only thirty years earlier, to be called "Salmon Trout Creek." Indeed, the surprisingly early date of the Bonner dam and of the obstruction of migratory bull trout populations in the Blackfoot River may explain why the tribal placename for Monture Creek, in particular, was not retained in tribal oral traditions.



Dam by the Big Blackfoot mill, and log rafts in river, n.d., but before 1908.
Photo by Morton J. Elrod, courtesy Archives and Special Collections,
Maureen and Mike Mansfield Library, University of Montana - Missoula.

For Salish and Pend d'Oreille people, the sudden industrial development of their aboriginal territory meant that their traditional way of life was under siege from all sides. The Salish had understood the Hellgate Treaty to reserve for them a reservation in their ancestral Bitterroot Valley, and -- aided in part by the plentiful fish in the Bitterroot River -- they had stayed there for over thirty-five years, in spite of constant pressure to leave amid steadily worsening conditions. Five years after the completion of the Northern Pacific in 1883, a spur line -- the

Missoula and Bitter Root Valley Railroad -- was built through the heart of Salish land in the valley. By the following year, 1889, the tribe was overwhelmed by the influx of non-Indian settlement and development of resources in the Bitterroot -- spurred in no small part by the overnight establishment of the city of Hamilton by Marcus Daly. Even the seemingly inexhaustible fishery was being quickly destroyed to feed the workers in Butte and Anaconda. An early non-Indian settler, Powell Clayton Siria, recalled selling fish from the Bitterroot River for "ten cents a pound." He and other fishermen made the considerable sum of "$5 and $6 per day till late in the summer when everybody went fishing. Some with giant powder till there were scarcely any fish left in the river."[137] In addition, the same kind of enormous log drives that damaged the Blackfoot River were also being conducted on the Bitterroot River -- to feed mills that were part of the Anaconda empire. Mr. Siria recalled that "from [18]92 to June of '96 the logging and the river drives were in full blast – the logs were driven down the [Bitterroot] river to the Hamilton Sawmill erected by Marcus Daly."[138]

Floating railroad ties down Lolo Creek, tributary of Bitterroot River, c. 1900. Yale Collection of Western Americana, Beinecke Rare Book & Manuscript Library.

For the Salish, the profound changes to the Bitterroot Valley, and finally even in the Bitterroot River itself, meant it was no longer possible to stay. In November 1889, Chief Charlo signed the agreement to leave, and after a torturous two-year delay imposed upon the tribe

by Congressional inaction, the government finally marched the tribe north to the Flathead Reservation, where they arrived in October 1891.

Although the government even failed to fulfill its promises to the Salish for homes and farming implements on the reservation, the Salish -- and the Pend d'Oreille too -- somehow managed to strengthen their economies and communities within the reservation during the next decade. By all accounts, the majority of tribal members continued to live within a subsistence economy, almost entirely outside of the market, organized and maintained within the tribal community and within its older cultural norms. Now, however, their hunting, gathering -- and importantly, fishing -- was combined with subsistence agriculture, mostly in the form of large gardens. Government agents during the 1890s claimed that "nearly all [Indians] have at least a small garden."[139] Gardening, along with very limited engagement with the cash economy, was a subsistence strategy employed by Indian people to adapt to their newly restricted resource base. Most families still harvested the traditional foods to the extent they were available, but the social and cultural web of tribalism still bound the community together and remained the predominant structure of the reservation economy. Agnes Vanderburg, who was born in 1901, remembered that it wasn't until she was "about six or seven...when my folks started buying stuff." And even then, Mrs. Vanderburg said, "They didn't buy a whole lot -- they just buy what they really need, you know." She said that her family -- one of the more culturally traditional families in the Salish community -- continued to depend primarily on the foods taken directly from the land: "still we had our own food."[140] Pend d'Oreille elder Mary Smallsalmon (1909-1995) similarly described the mixed mode of subsistence, and the network of tribe and extended family that helped support it:

> ...we had a garden, a big garden. My Dad planted a garden -- potatoes, beans, carrots, cantaloupe, watermelon, squash. All this was in my Dad's garden on Crow Creek, where we had our house...I said us Indians, we were poor. But we were not really poor -- we had gardens, we had dry meat, and we make deer dry meat. My father's mother, my brother *Piel* [Pete Beaverhead], they would make deer dry meat."[141]

Indeed, the 1890s were also a period of cultural revitalization and innovation in the Salish and Pend d'Oreille communities. It was during this time that Salish leader Sam Resurrection -- mentioned earlier for his fierce defense of tribal fishing and hunting rights -- introduced the modern form of powwow dancing and celebration to the Flathead Reservation. The first "Arlee celebration" -- an annual powwow that remains the reservation's largest -- was held in 1898.[142] Culturally and economically, the period around the turn of the century was one in which Salish and Pend d'Oreille people were finding ways to maintain their older ways of life within a newly restricted resource base. The continued availability of fish, including bull trout, was a part of that newly regained stability.

All of that would be turned on its head in April 1904, when President Theodore Roosevelt signed into law the Flathead Allotment Act, pushed through Congress by Montana congressman Joseph Dixon (who would later run TR's 1912 "Bull Moose" campaign for the presidency). The act was merely the application to the Flathead Reservation of a national policy, first established in 1887 with passage of the General Allotment Act (or Dawes Severalty Act), which sought to dismantle tribal ownership of land within reservations -- the backbone of tribalism as a collective economic and social system. On each reservation subjected to the law, including the Flathead Reservation, the government surveyed lands, allotted individual parcels to individual tribal members, and then declared any remaining tracts "surplus." Those

"surplus" lands were then thrown open to non-Indian settlers under terms similar to those of the Homestead Act of 1862.

Tribal leaders bitterly protested the Flathead Allotment Act, even making arduous journeys across the country to Washington, at their own expense, to try to stop what they saw as a grave injustice. They pointed out that the Hellgate Treaty of 1855 had explicitly "reserved" the Flathead Reservation -- approximately one-twentieth the size of the lands the tribes had ceded to the U.S. -- for the "exclusive use and benefit" of tribal people. To the extent that the treaty allowed for the allotment of individual parcels of land, it was clear that it was to be done only at the request and with the consent of individual tribal members.[143] In 1971, the United States Court of Claims, in a unanimous decision in favor of the Confederated Salish and Kootenai Tribes, concluded that "Plaintiff's Reservation was opened to white settlement and entry in breach of treaty, and without the consent of the Tribes."[144] But in 1904, none of these arguments mattered to Congress or the President. In the spring of 1910, after six years of surveying, enrollment, allotment, and other bureaucratic procedures, the reservation was thrown open to a flood of homesteaders, who quickly assumed a position of demographic and economic dominance.

Non-Indian homesteaders arriving on Flathead Indian Reservation, 1910.
Courtesy Montana Historical Society Research Center.

Allotment was perhaps the single most devastating federal Indian policy in U.S. history. In 1887, when the initial General Allotment Act was established, 138 million acres remained under Native American control. By 1934, when Franklin Roosevelt's Indian Reorganization Act finally put an end to the policy, Indian lands had been reduced to 48 million acres -- a loss of 90 million acres, or nearly two-thirds of the native land base that had existed less than fifty years earlier.

On the 1.2-million acre Flathead Reservation, the effects of allotment were as dramatic and as damaging as anywhere in the nation. Between 1910 and 1929, 409,710 acres of the reservation's best agricultural lands were made available to homesteaders. Between 1910 and 1935, another 131,239 acres of original Indian allotments were transferred into fee patent status, with nearly all eventually sold to non-Indians.[145] Many of the sales were forced upon Indians by federal agents, who helped storeowners and others call in small debts and take control of the land. Tens of thousands of additional acres were seized by the government to build townsites, create "villa sites" on Flathead Lake for generally wealthy vacation-home builders, establish a 16,000-acre National Bison Range, support public schools, build roads, construct dams and canals for irrigation, establish research stations for the University of Montana, and other purposes. Federal maps for a while referred to the area as the "former Flathead Indian Reservation."

We can gain some sense of the way the allotment act marginalized native cultures by looking briefly at the sudden changes in the predominant language of economic activity on the reservation. Prior to 1910, the only stores allowed to operate at Flathead were "licensed

Indian traders," who were permitted through the U.S. Office of Indian Affairs. The more successful traders learned to speak at least a modicum of Salish or Kootenai in order to conduct business. After 1910, the dynamic was immediately reversed. Now, with the majority of the reservation's population comprised of non-Indians and their newly established towns and ranches sprinkled across the Mission and Jocko valleys, it was Indian people who had to learn English in order to be served in a store, in order to make a living, in order not to be treated with overt disrespect. Almost overnight, the native languages had shifted from the necessary language of economic activity to a handicap. Fluency now seemed to be an impediment to success in the world. Increasing numbers of Indian parents stopped teaching their children how to speak Salish or Kootenai. With each passing decade, the number and percentage of fluent speakers declined.

The marginalization of native languages was just one reflection of the wider changes that affected all aspects of the tribal way of life. Because of the allotment act, tribal people also saw a drastic reduction in the lands and waters available to them for hunting, gathering, and fishing -- even within the small remnant of their aboriginal territory that they had reserved, under the Hellgate Treaty, for their "exclusive use and benefit." But when it came to the fisheries of the Flathead Reservation, it was not the allotment act alone that did the most damage. The most direct harm came with the construction of the Flathead Indian Irrigation Project (FIIP), passed by Congress in 1908 with the ostensible rationale of making allotment an economically viable proposition. Constructed gradually over decades, this sprawling system of dams, reservoirs, and canals would eventually deliver water to over 100,000 acres of arid prairielands. For over two decades, the Bureau of Reclamation constructed some thirteen dams and reservoirs to impound and store water for the Flathead Project, radically altering the ecology and water

flows of nearly every stream on the reservation. Pablo Reservoir was built in 1914, Hell Roaring Dam in 1916, McDonald Lake Dam in 1920, Lower Dry Fork Reservoir in 1921, Ninepipe Reservoir and Hubbart Dam in 1923, Tabor Dam and Kicking Horse Reservoir in 1930, Turtle Lake in 1932, Crow Dam and Reservoir in 1933, Black Lake (Upper Jocko Reservoir) and Mission Dam and Reservoir in 1935, and finally Lower Jocko Reservoir in 1937. In the process, the project completely dewatered many streams and severed the connectivity between spawning areas and larger bodies of water.

Construction of McDonald Lake dam, Flathead Indian Irrigation Project, 1919.
Rocky Mountain Federal Records Center (NARA), Denver.

While FIIP was established by Congress with the stated goal of helping Indians become farmers, the project's ditches in fact ran over and replaced some older small-scale Indian irrigation works that had supplied tribal families with free water for their gardens, where they grew all the vegetables they needed for their own consumption. Now they were told they had to pay for the water, regardless of whether they wanted a ditch built through their allotment or even if they used irrigation. Many traditional families subsisted almost entirely by hunting, fishing, and gathering, supplemented by their small garden plots. They lived so much outside the market economy that they lacked the money to meet the charges levied by the irrigation

Whispering Charlie Finley with other Salish-Pend d'Oreille people in a family garden, c. 1910. Courtesy Doug Allard.

project. As a result, many Indian allottees had their lands seized by the agent as payment for their unpaid "debt" to the Flathead Indian Irrigation Project.[146] Within a short time, most of the good irrigated land served by the project was controlled by non-Indians. In effect, the primary effect of FIIP was not to make Indian farming viable, but to make market farming viable. Very few tribal members were engaged in that kind of production; by 1927, when some 30,000 acres were watered by the project, the number of irrigated Indian farms had declined to exactly twelve.[147]

FIIP was part and parcel of the dramatic expansion of market farming in Montana during this period, spurred in part by Joseph Dixon's Enlarged Homestead Act of 1909.[148] Indeed, Michael Malone called the ensuing, decade-long homestead boom "the most far-reaching, revolutionary development in the state's entire history." Most of that boom occurred in the dryland farming regions east of the divide. But the flood of settlers was even heavier in a place like the Flathead Reservation, where an irrigation project made farming for money even more viable -- along with proximity to the railroad and to two sizable cities. With settlers lured by a wave of boosterism and propaganda produced by railroad companies and realtors, chambers of commerce and bankers, the Flathead Irrigation Project helped change the whole culture and

economic fabric of the reservation, making the tribal way of life even less viable -- due not only to the way it rendered tribal people landless, but also because of the direct damage it did to native fish populations.[149]

In those early decades of the twentieth century, there were enough complaints from tribal people, particularly in the Jocko Valley, that some glimpses of their resistance emerge even in government records from a period in which voices of dissent rarely register. In July 1919, for example, Superintendent Theodore Sharp was forced to respond to the Commissioner of Indian Affairs, who had apparently been visited by "a party of Indians from the Flathead Reservation who claim to constitute an authorized delegation." Sharp noted that, among other complaints about the irrigation project, "they allege that the running streams on the reservation have been 'blocked,' and as a consequence, the Indians are now unable to obtain fish which they used to obtain from these streams." Sharp responded with a mixture of diversion and error. He said that "at only one place is there a dam that requires the construction of a fish ladder" -- obscuring the way

Construction of D Canal, Flathead Indian Irrigation Project, 1910.
Rocky Mountain Federal Records Center (NARA), Denver.

in which the extensive system of canals and headgates, more than dams, prevented fish from moving between downstream areas and spawning beds in the upper reaches of streams. Sharp furthermore claimed that "from information obtainable...it does not appear that the fish of these streams form a material part of the food supply of the Indians." The superintendent was apparently unable to "obtain information" by asking people who might know -- such as Pete Beaverhead, or Mose Chouteh, or Agnes Vanderburg, or any of the other elders we have heard from in this essay. They would have been young adults in 1919, and we can only imagine the depth of information that they -- let alone their parents or grandparents -- could have provided to Agent Sharp about whether fish were in fact an important source of food.[150]

A few years later, the Commissioner of Indian Affairs responded to a letter from Flathead Superintendent Charles Coe "enclosing a petition signed by the Indians of the Jocko Valley protesting against the proposal to divert water from the Jocko River into Mission Valley for irrigation purposes." The government directed the irrigation project manager, C.J. Moody, to respond. In a memorandum dated June 16, 1922, Moody acknowledged that indeed, the scheme to divert water from the Jocko River into St. Mary Lake (also known as Tabor Reservoir) would result in five miles of the Jocko River being completely dewatered for two months in "low-water years." But Moody ventured that this was no great loss, since "this is a portion of the river easily accessible for fishing by outside parties and consequently rather 'fished out.'" Never mind that the Hellgate Treaty had stipulated that fishing within the Flathead Reservation would be an exclusive right of tribal members. While Moody admitted that "There is no doubt that the fishing privileges of the Jocko River is [sic] of great value to the Indians," he insisted that this was only "somewhat for the food value obtained." He

claimed that what was of far greater importance to Indian people was simply fishing "for a pastime." In the end, Moody recommended that the government ignore the objections raised in the tribal petition, because the project -- and its ultimate goal of supplanting the traditional way of life with agriculture -- was good for the Indians, whether they knew it or not. "The same amount of time spent cultivating and irrigating a few acres of land during the growing season when water is low would produce many times the value in food and better the moral and physical condition of the race."[151]

Salish or Pend d'Oreille man fishing on lower Flathead River, c. 1900.
Courtesy Archives and Special Collections, Maureen and Mike Mansfield Library, University of Montana - Missoula.

If C.J. Moody sounds remarkably like Pierre-Jean De Smet in his view of tribal people and the traditional way of life (and fishing in particular), it should not surprise us. Many of the people involved in the enormous irrigation projects of the period were infused with religious fervor, motivated by powerful visions of transforming the "desert West" into a garden through the muscular control and "improvement" of nature.[152] Though separated by 75 years, they were both missionaries intent upon the conversion of native cultures. After reading Moody's memo, the Commissioner of Indian Affairs, Charles H. Burke, wrote to Superintendent Coe to approve the project, saying, "it is evident that the carrying out of the proposed work will accomplish

the greatest good for the Indians and at the same time will not materially injure their fishing rights." If the second half of Commissioner Burke's verdict was an outright lie, then the first half was surely a statement of faith. The Commissioner's reference to "the greatest good" was doubtless an intentional echo of Gifford Pinchot, the high priest of "progressive" natural resource management in the early twentieth century, whose famous mantra defined the movement: "for the greatest good, for the greatest number, for the longest time."

As that philosophy exploded into action across western Montana, the consequences for both native cultures and native fish were devastating. As we have seen, the construction of the Bonner Dam in 1884 had already blocked fish from moving up the Blackfoot River. The twentieth century would usher in a period of far more intensive, more ambitious, and more destructive dam-building in Montana as elsewhere in the Columbia drainage system and the nation as a whole.[153] Over ninety dams were constructed throughout the Columbia basin, and over thirty in the Clark Fork-Flathead-Pend Oreille system alone.[154] Across Salish-Pend d'Oreille territories, dams for irrigation, for water storage and diversion, and on a far larger scale, for hydroelectric power, sprang up with growth of industry and urban areas.

The Clark Fork-Flathead system, as we have noted, had been home for millennia to several distinct bull trout populations -- some of which lived their entire lives in the rivers (the stream resident form of bull trout), others which migrated over relatively short distances between streams and mainstem rivers (the fluvial form), and still others which ranged all the way downstream to large lakes, such as Flathead Lake or Lake Pend Oreille, and then returned to spawn in the headwaters of their birth (the adfluvial form). The latter two forms (and especially

the adfluvial) were the giants -- the fish often called “salmon-trout” by the early explorers and *aay* by the Salish and Pend d’Oreille (in contrast to *ɬʔay*, the word for the stream resident form or a younger bull trout). They were the fish most harmed by the construction of dams.

In western Montana, the first dams were of modest size. After the Bonner Dam in 1884, the next was the Bigfork Dam, a twelve-foot-tall structure built in 1902 on the Swan River, a mile and a half above its mouth, where it empties into the northeastern corner of Flathead Lake. The dam, which provided power to nearby Kalispell and other communities in the Flathead Valley prevented adfluvial bull trout from migrating between the lake and the Swan River and its tributaries. Bull trout may be disinclined to swim upstream into the warmer waters that issue out of a lake, so biologists say that it is unclear how many bull trout, prior to the Bigfork Dam, may have migrated from Flathead Lake up the lower part of the Swan River. They are even less sure that they would have passed through Swan Lake, and on up the upper Swan River. In any case, all agree that few if any passed after 1902, and certainly none after the early 1920s, when the dam’s height was raised to sixty feet. Ken Huston, an early non-Indian resident of the Swan Valley, expressed the view of many residents that “the Bigfork Dam is what wrecked the fishing in this country.” Surprisingly, fish ladders were required under Montana Fish and Game laws at the time of the dam’s construction, and one was finally put in place at Bigfork in the 1930s or 1940s, after the dam had been raised. But biologists have characterized the ladder as “marginal,” and Mr. Huston more bluntly called it “a joke.” [155]

Just as the growing non-Indian economy of the Flathead Valley impelled the construction of the Bigfork Dam on the Swan River, so the development of industry and urban areas along the Clark Fork River led to the transformation of the river that had been filled with bull trout,

and lined with Salish placenames referring to the fish, for millennia. As early as 1871, the nascent community of Missoula had constructed wooden pipes to carry water into town from Rattlesnake Creek -- the place known to the Salish and Pend d'Oreille as *Nɬʔay*, meaning Place of Small Bull Trout. Sometime thereafter, the system was bought by the Missoula Mercantile, which added a small hydroelectric generator to augment the power supply already provided to the growing city by the Bonner dam. Then, in 1901, the Mercantile constructed a water supply dam on the creek.[156] Now the fish that had given the place its name could no longer migrate between the Clark Fork River and the stream's upper reaches.

If the dam wasn't enough to discourage bull trout in Rattlesnake Creek, they also had to contend with log drives. In 1891, Barton Evermann, the fisheries expert who had observed the log drives on the Blackfoot River, described much the same scene at the Place of Small Bull Trout:

> at least 3 miles of the stream was literally filled with an immense jam of cordwood which had been started down, and above this we saw a constant line of sticks floating by to augment the large amount already in the jam.[157]

Even greater damage was done to bull trout populations by a dam built soon after in the Clark Fork River, just below the mouth of the Big Blackfoot and the Bonner Dam. In September 1905, mining magnate William Andrews Clark began construction of the Milltown Dam. It was completed in January 1908, with two 11,000-volt transmission lines running to Missoula, and one smaller line feeding Clark's lumber mill at nearby Bonner. Even before Milltown Dam's construction, bull trout and other fish in the Clark Fork had suffered serious harm. For a quarter century, the dam at the Bonner mill had been preventing the passage of fish --

The newly completed Milltown Dam, April 1909.
Library of Congress.

especially fluvial and adfluvial bull trout -- up the Blackfoot River. And as we have seen in the reports of Barton Evermann from 1891, the Clark Fork River was already severely contaminated by mine wastes from Anaconda and Butte, with an almost total elimination of aquatic life from the upper river and Silver Bow Creek. In Evermann's estimation, these mine wastes had "very greatly reduced" fish populations as far downstream as Missoula, although the pollution was "probably not enough to prove wholly destructive to fish."[158] But now, with the Milltown Dam, the migratory populations of big bulls, swimming up from the lower river and Lake Pend Oreille, were also prevented from ascending other major Clark Fork tributaries such as Rock Creek and Flint Creek. A century after Milltown's construction, bull trout would still be seen at the downstream base of the dam, futilely attempting to swim up to the spawning beds of their ancestors.[159]

Of all the dams built in the Clark Fork drainage, it was the next one -- the Thompson Falls Dam, which the Montana Power Company began building in 1913 and completed in July 1915 -- that was talked about most by those tribal elders who were old enough to have witnessed its impact. The dam was placed at *Sc̓eyłk*^{w}*m*, the place whose ancient onomatopoetic name refers

Top: Thompson Falls Dam under construction, 1914. Above: the completed dam, 1915.
Library of Congress.

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to the sound of falling water, and where David Thompson's Saleesh House, built in 1809, had become the first significant outpost of the market economy within the tribe's territory. A century later, the systemic transformation initiated by Thompson was manifested in the construction of this dam, which primarily served mines in the area with its 94 megawatts of hydropower. For the great adfluvial bull trout swimming upstream from Lake Pend Oreille, the 32-foot tall dam blocked access to some 86 percent of the Clark Fork River basin, including the entire Flathead River system and the many spawning tributaries within the Flathead Reservation.[160] The effects were acutely noticed by Indian people. "The trout can't come any more on account of Thompson Falls dam," recalled Joe Eneas (1896-1997). "Thompson Falls dam. That's when they quit coming."[161] Charlie McDonald (1897-1995) remembered the great numbers of bull trout in Post Creek and in the Jocko near Ravalli -- and how they "stopped being so plentiful after the Thompson Falls dam was put in."[162] Interestingly, the Jocko River

in the Ravalli area remained a fishing place of considerable importance to tribal people long after the construction of the Thompson Falls dam. But in the memory of somewhat younger elders who only fished there after 1915, it was not bull trout that were harvested there, but whitefish. The cultural importance of the Ravalli area as a fishing place remained even after the species composition had changed dramatically.

The next major impoundment in the Flathead-Clark Fork system was Kerr Dam, completed in 1938 near the very center of the Flathead Reservation itself, at the falls of the lower Flathead River, about five miles below the outlet of Flathead Lake. This site of ancient cultural importance was known in Salish as *Stípmétk*^{w} -- the Place of Falling Waters.

Kerr Dam's history traced back directly to the opening of the reservation to white settlement and the building of the Flathead Indian Irrigation Project. Like most federal irrigation projects, the cost of constructing the Flathead Project was supposed to be gradually paid for by the farmers who used the water. But by the early 1920s, many farmers on the reservation, like elsewhere in the West, had gone broke, leaving the project millions of dollars in debt. In the late 1920's, a solution was proposed by the U.S. government and the biggest and most powerful companies in Montana.

The reach of the Anaconda Copper Mining Company and the intertwined Montana Power Company was so great in Montana that the state's economic and political system was arguably controlled more by a single corporate entity than any other in U.S. history. As Montana historian K. Ross Toole has noted, "by 1900 Anaconda was employing nearly three-quarters

Mines at Butte, 1914.
Library of Congress.

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of the wage-earners in the state." Beyond mines and smelters, Anaconda also controlled timberlands, railroads, newspapers, mercantile stores, and municipal waterworks, and exerted vast influence throughout the legal and political system.[163] Anaconda's corporate structure, and Montana's political environment, became more complicated and contested as the twentieth century progressed, but in the 1920s, the company's power remained formidable. Anaconda and its corporate twin, Montana Power, had long wanted to build a dam at the falls of the Flathead River in order to generate electricity for their copper and zinc smelters; in 1920, they formed a jointly owned subsidiary called the Rocky Mountain Power Company for the express purpose of building the dam. The fact that the site was located within the Flathead Reservation was seen by the company as little more than a formality to be addressed and dispensed with. In 1928, the RMPC proposed to divide

Smelters at Anaconda, 1907.
From a stereoscopic image. Library of Congress.

the power revenue between the indebted irrigation project, the predominantly non-Indian water users, and the Bureau of Indian Affairs. The Tribes were omitted from the initial deal altogether, but the BIA quickly endorsed the idea -- typical of the agency's pre-New Deal tendency of facilitating rather than defending against the taking of tribal resources. Tribal leaders protested, however, and they were joined by John Collier's American Indian Defense Association. The proposed Flathead dam became a minor national scandal, publicized in the *Nation* magazine, and in the end, the tribes succeeded in getting a share of the proceeds from the dam -- a "rental fee" for the tribal land upon which the dam sits. The tribes also secured an agreement on the hiring of tribal workers, and hundreds found employment there during the building of the dam.[164]

From official records, it would appear that the only issue in contention was how the dam's electric power -- and its revenue -- would be distributed. The voices of traditional cultural people, however, were excluded from the debate. Many of them, in fact, wanted no dam at all. The falls were a sacred spiritual site -- and also a fishing place of great importance,. As Joe Eneas said, "it was a good fishing place, because as the water falls, it's kind of like a hole. That's where we fished."[165] Early biologists noted that the falls of the Flathead River "consist[ed] simply of a series of rapids, which [did] not interfere in the least with the free movement of fish. From this point down Flathead river possesse[d] no falls or obstructions of any kind, and there [was] none in Clarke Fork until near Lake Pend d'Oreille."[166]

In August 1938, Montana Power held an elaborate celebration adjacent to the dam, in a perfect grassy spot of middle class suburbia -- housing for the dam's staff that the company had

strangely implanted in the center of the Flathead Reservation. During the celebration, which was preserved by company cameramen on silent color film, the company unveiled bronze plaques proclaiming the dam as a monument to "friendly cooperation" between Indians and whites. Tribal members appear voicelessly before the camera, window dressing for Montana Power's message. One of them was Jerome Vanderburg. In an interview half a century later, his widow, Agnes Vanderburg, simply remarked, "My husband was still young....it didn't fall into his head to go work up there. He kind of disliked the dam. That isn't the kind of work he did. He didn't want it."[167] Other tribal members, newly dependent on the cash economy in the post-allotment reservation environment, accepted work there. Of nine fatalities during the dam's construction, seven were tribal members. Kootenai elders felt that the death of the chief's son at the dam was attributable to the desecration of the sacred falls.[167b]

Stipmétk^{w} -- the Place of the Falling Waters.
Courtesy Archives and Special Collections, Maureen and Mike Mansfield Library, University of Montana - Missoula.

Kerr Dam under construction, 1937.
Photo by C. Owen Smithers, courtesy Smithers & Son Photography, Butte, MT.

With Kerr Dam's construction, the movement of bull trout and other fish, up or downstream, was ended. The 205-foot tall dam, capable of producing 196 megawatts of electricity, also raised the vast shoreline of Flathead Lake -- the largest natural lake in the western United States -- by ten feet at full pool, resulting in additional damage to fisheries from the erosion of shoreline.[168] Furthermore, the dam was, until very recently, operated as a "load-following" or "peaking" facility, meaning that with any surge in demand anywhere in the electric grid, flows through the dam's turbines could be immediately increased. This caused enormous and rapid increases and decreases in the flows of the Flathead River below the dam, with significant harm to fisheries and other aspects of the aquatic and riparian environment.[169]

Plasí Cocowee working at Kerr Dam, 1937.
Photo by C. Owen Smithers, courtesy Smithers & Son Photography, Butte, MT.

The completed dam, 1938.
Photo by C. Owen Smithers, courtesy Smithers & Son Photography, Butte, MT.

For the next decade, no additional major dams were built in the Flathead-Clark Fork drainage system. But in the 1950s, the movement of bull trout and other fish, and the wider ecology of the system, would be catastrophically changed by four additional dams put in place in a span of only eight years.

In 1948, construction began on the first of the drainage system's large federal projects: Hungry Horse Dam, on the South Fork of the Flathead River -- the branch of the Flathead system that drains out of the area now within the vast Bob Marshall Wilderness Area. When the gates were closed in 1951, spawning bull trout migrating up from Flathead Lake were suddenly denied access to 38 percent of the drainage system above the lake. Although little quantitative information exists about their historic populations, tribal elders and others have recounted at length the bull trout harvested in the area, and it is clear that the South Fork had been a major spawning and rearing area for adfluvial and other forms of bull trout. When completed in 1953, the 564-foot tall dam created a reservoir over fifty miles long, drowning an important part of the tribes' aboriginal territories. Originally engineered for a maximum output of 285 megawatts of electricity, Hungry Horse now generates up to 428 megawatts. [170]

Hungry Horse Dam and the inundated South Fork of the Flathead.
Photo by Mel Ruder, courtesy Hungry Horse *News.*

In 1951 -- the same year that Hungry Horse lowered its gates -- construction began under private funding on Cabinet Gorge Dam, just east of the Idaho-Montana border, in one of the most scenic canyons of the lower Clark Fork River. Completed in April 1952, this 208-foot tall, 231-megawatt dam would be nearly as disastrous for the adfluvial bull trout of Lake Pend Oreille as Hungry Horse was for the fish in Flathead Lake.[171] The only reason the damage was not as great was the prior construction of Thompson Falls Dam; since 1915, only 67 miles of free flowing river had remained upstream from Lake Pend Oreille. The Cabinet Gorge Dam denied bull trout access to at least ten more spawning streams.[172] As with the bull trout at Milltown Dam, biologists have documented bull trout returning to the base of Cabinet Gorge Dam each fall in a quest to return upstream.[173]

Top: Cabinet Gorge, c. 1870-1890.
Isaac G. Davidson photo. Denver Public Library, Western History Collection.
Above: Cabinet Gorge Dam, 2008. Thompson Smith photo

In that same year of 1951, the Army Corps of Engineers began construction on a dam at the historic Albeni Falls on the Pend Oreille River, some 26 miles downstream from the outlet

of Lake Pend Oreille. This was the place that Pend d'Oreille people called *Sx^{w}e?wí*, meaning Portage -- a place where the people carried canoes around the falls as they traveled up and down the river that ran as a central artery of cultural life through their homeland. The dam began operation in 1952 and was finished in 1955. Albeni Falls was relatively small -- only 42 megawatts -- but like the other dams, it blocked passage of fish;[174] as described in Gilbert and Evermann's 1894 study of Columbia basin fisheries, Albeni Falls was "scarcely more than pretty steep rapids [that] would not interfere at all with the ascent of salmon."[175] Designed for flood control, the Albeni Falls Dam manipulates water levels for the entire 111-mile shoreline of Lake Pend Oreille, the largest lake in northern Idaho. Over the course of the year, the dam raises and lowers the lake by eleven feet, with the same harmful consequences for fish, spawning beds, and the aquatic environment that Kerr Dam has had on Flathead Lake.[176]

Albeni Falls Dam. U.S. Army Corps of Engineers.

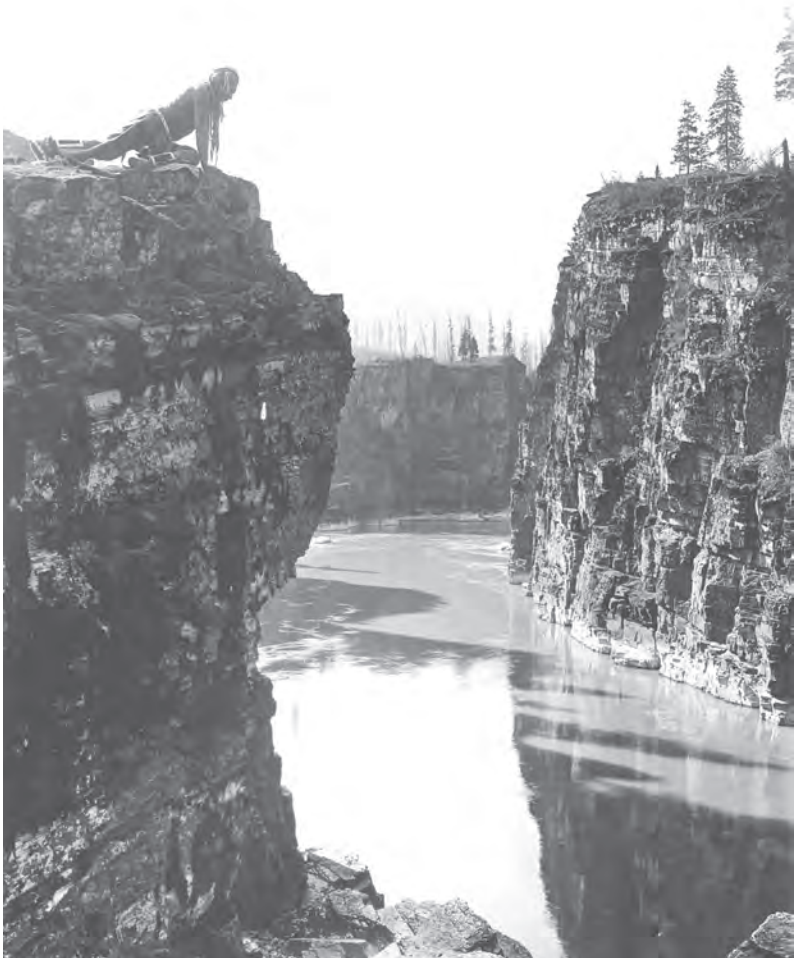
Finally, in 1960, just over 18 miles upstream from the Cabinet Gorge Dam on the lower Clark Fork River, and 37 miles below the Thompson Falls Dam, the Washington Water Power Company (now called Avista Corporation) finished work on the enormous Noxon Dam, which produces 466 megawatts and is the single most important source of power for the city

of Spokane.[177] For those bull trout permanently trapped in the Noxon Reservoir, the Clark Fork no longer provided inviting habitat; summertime surface temperatures averaged 72 degrees Fahrenheit, occasionally rising to over 75 degrees Fahrenheit. Downstream of Beaver Creek Bay, the reservoir was so still as to leave no visible water currents.[178]

Noxon Rapids Dam and Reservoir, April 2009. Photo from Wikipedia Commons.

In the oral traditions of a number of tribes in the inland Northwest, there are traditional creation stories telling of great dams being placed across the rivers, blocking the passage of fish. Coyote used his powers and his guile to break the dams and allow fish to return upriver. This was the way the world was supposed to be. Coyote had helped prepare a good and abundant home for the human beings who were yet to come. For thousands of years, people lived in ways that both benefited from and took care of the world Coyote had made. But over the last two centuries, a different way of being, a different relationship to the land and waters, was imposed upon the region. Now many of the rivers that

had once run free had been transformed into a series of dead-water lakes. And the great fish that had once defined these waters, whose name was upon many places along its banks, was almost gone.



Nkʷx̓̌lexʷncú (Sam Resurrection) in Cabinet Gorge, c. 1915.
Photo by R.H. McKay, courtesy Archives and Special Collections, Maureen and Mike Mansfield Library, University of Montana - Missoula.

Chapter 6: Resistance and Renewal

By the time the Noxon Dam was finished in 1960, western Montana and northern Idaho bore little resemblance, culturally or ecologically, to the tribal world of the Salish and Pend d'Oreille that had defined the region for millennia, and until only a short time before. Now dams blocked the rivers. The great runs of bull trout from Lake Pend Oreille were gone. Mose Chouteh could recall the dried fish he enjoyed as a boy -- "when it was dry, it was delicious... yes, it was delicious...there are times when I really get hungry for that...*sqlix*^{w}*ɬs*^{ʔ}*íɬn*, food of the people. Hoy, then I would cry...here at times I cry for some stuff that I get hungry for, our Indian food."[179] Joe Eneas, interviewed in 1989 at Kerr Dam -- the former site of the falls of the Flathead River, where in his childhood his family would camp and fish for bull trout -- simply remarked, "Well, we knew it was good. But we didn't know it was that good."[180]

The bull trout that Joe Eneas and Mose Chouteh remembered had vanished not only because of the dams, but also because of an inconsistent, sometimes ill-informed, and often unenforced regulatory and legal landscape in Montana. We have noted the state's legal requirement for constructing fish ladders at all dams -- a law that appears to have been systematically ignored.[181]

State policies and laws regarding bull trout in particular appear to have shifted wildly through the early twentieth century, reflecting the contradictions at the heart of progressive conservation -- on the one hand, a vigorous assault on the unsustainable destruction of the nation's resources and a hard-nosed check of corporate power, and on the other hand, the

perpetuation of many of the deeper elements of western environmental ideology. Now that ideology was empowered with bureaucratic efficiency and defended by scientific certitude. Early twentieth century "progressives" demonized certain elements of the natural world in much the same way as those they excoriated for a lack of commitment to sustainability. Bull trout were long depicted in the same way as wolves -- as an unmitigated evil that should simply be eliminated. Even as Montana was, at least on paper, banning the pollution of waterways and requiring fish ladders, it also was defining bull trout as "a cannibal fish...very destructive to fish life." Claiming that a ten-pound bull trout would consume three hundred pounds of other fish in a year, the state's head warden and the Montana Fish Commission in its 1911-12 biennial report demanded that "there should be no protection by law for any variety or species except those known as game fish; that is, the Mountain trout, Rainbow trout, Eastern brook trout, the Steelhead trout and the Grayling."[182]

Interestingly, the next state report completely reversed this assessment of bull trout. With the reconfiguring of management under a "Montana Game and Fish Commission," the 1913-14 report was issued as the "first biennial report," and at least in regard to bull trout, it proclaimed a new era of more nuanced understanding. "The Dolly Varden or Bull trout is found in nearly all of the waters of the Montana Pacific slope, and also in the St. Mary's Lakes on the eastern slope," the report noted, and then continued with an obvious critique of previous policies regarding bull trout. "This fish has a bad name as a voracious cannibal, but as all trout are cannibals, he is only following out his trout nature a little more vigorously than some of the others." In fact, the report stated, "The Dolly Varden trout is a good game fish," and was "eagerly sought by anglers, both for his game quality and also for his flesh, which is considered

by many to be as good as nearly any fish." The Commission elaborated on its rethinking of the maligned fish: while "it is said to be rather more of a cannibal than other trout," the westslope cutthroat or "native black-spotted trout as a rule, is able to keep out of its way, and to many anglers the Dolly Varden affords rare sport; it attains a weight of over twenty pounds, specimens of this fish have been caught in McDonald's Lake weighing twenty-two pounds." The report directly challenged the notion that the presence in St. Mary's Lake of bull trout (or what the report said was a larger variant of lake trout found there) was a threat to the existence of other native fish: "Specimens of this trout have been taken from St. Mary's Lakes weighing forty-eight pounds, while in Lake Superior this fish has been known to attain a weight of one hundred and twenty-five pounds. This trout, if anything, is more of a cannibal than the Dolly Varden, yet the St. Mary's Lakes fairly teem with other food fish, including the ling, cut-throat trout, Dolly Varden, the common and Richardson whitefish, as well as walleyed pike." The Commission concluded by asking the state legislature to restore "the Dolly Varden or Bull Trout to the game fish class, prohibiting the seining of such fish and fixing the maximum catch of such fish in one day at 50 pounds."[183] The 1913-1914 Commission noted the toll already being exacted upon bull trout by overfishing, particularly in the Flathead Lake region, which until then had been actively encouraged by the state:

> Thousands of pounds of this fish have been netted in Flathead Lake during the past season, and sold mostly in Kalispell, where they bring from twenty to twenty-five cents per pound in our retail markets; if it were not a good food fish it could not be sold for such prices; if the netting of this fish is continued it will only be a short time till this fish is exterminated. To save it from this fate, the law permitting its being netted ought to be repealed, and its capture limited to the hook and line the same as other trout.[184]

But if Montana's official policy reversed itself in 1913 to embrace the bull trout, it was a short-lived affair. The 1925-1926 biennial report, issued now by the Montana State Fish and Game Commission, returned to a full-throated vilification of bull trout as "THE CANNIBAL OF MONTANA'S STREAMS." The report asserted that "it is well established that the bull trout is destructive of all other kinds of fish," but as evidence provided only the same anecdotal claims of the 1911-12 report, along with photographs of bull trout accompanied by lurid captions: "Another view of the cannibal bull trout, caught in the whitefish seine in Flathead lake. Its stomach was filled with small trout. Note the huge head and jaws." If the visual depiction of the fish as an aquatic monster was not enough, the text drove the point home:

THE CANNIBAL OF MONTANA'S STREAMS

MONTANA sportsmen have declared war on the Dolly Varden or bull trout, the cannibal of the trout family, in the realization that the big fellows are devouring their daily toll of fingerlings and larger trout planted and preserved through activities of the state fish and game commission. The photograph above is a sample of the manner in which these cannibals of the creeks and lakes devour these little fish. These bull trout abound in Flathead lake where commercial seining is permitted for Rocky Mountain whitefish. When they are brought up in the seine the smaller fish are given a better chance to survive.

Bull trout caught at the mouth of Rattlesnake creek, near Missoula, with [illegible] small trout and other fish in its stomach.

From the *Biennial Report of the Montana Fish and Game Commission*, 1925-1926.

> MONTANA sportsmen have declared war on the Dolly Varden or bull trout, the cannibal of the trout family, in the realization that the big fellows are devouring their daily toll of fingerlings and larger trout planted and preserved through activities of the state fish and game commission.[185]

The 1925-26 report's assault on bull trout was motivated in part by a fervent desire to develop the whitefish fishery in Flathead Lake on a commercial scale. The policy was laid out in an

article within the report entitled “Flathead Lake and the Whitefish,” written by a former member of the commission, Judge Walter M. Bickford. “There can be no doubt in the mind of any well informed fisherman that the catching and marketing of the bull trout caught with the whitefish will be of great aid in future efforts at raising the whitefish.” Bickford claimed that fisherman hauled in 113 million pounds of whitefish each year in the Great Lakes, and that a similar bounty awaited Montanans if they would simply eliminate the “worst enemy” of whitefish, the bull trout. The result would be a flow of money and food: “Catch the bull trout, then, and add to the efficiency of work later to be done, at the same time derive a revenue and supply food of a most desirable kind to the people.” Bickford did not explain how whitefish could be so abundant in the Great Lakes, given the presence of enormous lake trout. Nevertheless, his view of bull trout was emphatically clear: “its destruction would be a good thing.”[186]

The inconsistency and internal conflicts over bull trout within Montana’s government undoubtedly contributed to the fish’s decline through the course of the twentieth century. As we have seen, that was just one of many factors, along with the transformation of the region’s rivers and lakes through mining, logging, dam building, urban development, and other activities beyond the scope of this essay, including agriculture and the introduction of exotic species.[187] In the span of just a few decades, Salish and Pend d’Oreille people saw bull trout dwindle from the abundance known to the elders to a fish teetering on the brink of extinction. Indeed, it is difficult for us now to realize just how abundant and how large these fish were -- which explains, in part, why researchers have until now underestimated the importance of these fish in the tribal way of life.

Yet this is also a story of resistance and renewal. The bull trout have survived, if in reduced numbers and, in most areas, of lesser size. Tribal leaders have continued to assert their treaty rights and fought to rebuild tribal sovereignty in the management of resources. Tribal people have continued to practice the traditional ways in the face of danger and derision. State and federal policy, in the second half of the twentieth century, became rooted in a more rigorous scientific basis that recognized the importance and value of native species, including bull trout, and ultimately committed millions of dollars to their protection and revitalization. In recent years, many people, both Indian and non-Indian, from a diverse range of agencies and institutions, have come together to try to heal and restore some piece of the bountiful environment handed down by the ancestors.

By the mid-twentieth century, tribal members finally won their long struggle to gain legal recognition of their right to fish, hunt, and gather on public lands throughout their aboriginal territories. By the late twentieth century, the reconstituted tribal government had begun to reclaim, piece by piece, the sovereign authority it had lost since the time of the treaty. After decades of cultural loss, elders and younger tribal people starting working together to record, teach, and pass on the language and knowledge of the ancestors.

In June 1998, at a gathering near the confluence of the Clearwater and Blackfoot Rivers, Secretary of the Interior Bruce Babbitt declared the species as threatened under terms of the federal Endangered Species Act. The event officially marked the precipitous decline of the fish, but it also proclaimed a new commitment to its recovery and restoration. In ways similar to the Salish nation dispersing before they exhausted their supplies of fish, so American society

as a whole -- we can hope -- will change its ways in time to save the bull trout. By June of 2000, the Montana Bull Trout Restoration Team had produced its plan for the protection and revival of the great fish.[188]

Interior Secretary Bruce Babbit announces listing of bull trout under Endangered Species Act, 1998. Photo by Suzanne Vernon.

The success of this effort is by no means certain. The habitat and survival prospects not only of bull trout, but also of many species in the Northern Rockies, are gravely threatened by the accelerating problem of global warming. Uncontrolled growth, marked by widespread subdivision, has engulfed the area for over two decades, with the Flathead and Mission valleys seeing an increase in population of over 25% in the 1990s alone. Exotic invasive species -- both plant and animal, both terrestrial and aquatic -- have overrun much of the region, and officials fear that others such as zebra and quagga mussels may soon follow, which would have devastating consequences.

Yet over the past two decades, there have also been countless encouraging signs, as the Confederated Salish and Kootenai Tribes, various agencies, and citizens groups have worked to reverse the damages of the past century and to find ways to avert looming future threats. Through the 1980s, for example, the Tribes fought in courts to secure minimum in-stream flow requirements for the streams and rivers affected by the Flathead Irrigation Project. For

the first time in almost eight decades, the Jocko River and other waterways of vital importance to bull trout were no longer dewatered during late summer. During that same decade, the Tribes rejected proposals to construct more dams on the lower Flathead River, citing the cultural importance of the river and the overwhelming opposition of tribal members to such development. Beginning in 1986, the Tribes began holding an annual "River Honoring" event on the banks of the Flathead; this eventually grew to become the largest outdoor environmental education event in western Montana. In 1993, the Tribes adopted the Lower Flathead River Management Plan, with the guiding vision that

> the natural and cultural values of the Lower Flathead River Corridor shall be preserved for present and future generations of the Tribes; that management shall give priority to enhancing resource values associated with traditional cultural uses of the corridor such as hunting, fishing, plant harvesting, and other cultural activities; that resource uses in the corridor are managed to be compatible with the restoration and maintenance of the river's outstanding natural and aesthetic qualities; and that management shall be consistent with the needs and desires of the Tribes.[189]

In 1993, the damages to bull trout caused by the construction of Hungry Horse Dam were addressed in a mitigation plan adopted by the Northwest Power Planning Council. The plan mandated specific measures to protect and enhance resident fish and aquatic habitat, with an emphasis on improving habitat and providing for fish passage. By 1997, that plan was developed into a full-fledged fisheries mitigation program under the Bonneville Power Administration.[190]

At the same time, an enormous effort was launched to clean up the sprawling Upper Clark Fork River, from the headwaters near Butte downriver to Milltown Dam. Butte and Silver

Bow Creek were declared a federal Superfund site by the Environmental Protection Agency in 1983; by 1990 the EPA has expanded the defined area to include the river all the way to Bonner and Milltown. In spatial terms, this was the largest Superfund site in the United States, encompassing 28 miles of Silver Bow Creek and about 120 miles of the Upper Clark Fork River, a valley freighted with hundreds of millions of cubic yards of contaminated tailings. At the same time, federal, tribal, and state governments were engaged in a lawsuit against the Atlantic Richfield Company (ARCO) to force the company to pay for damages to the river. Under terms of the 1998-1999 settlement, ARCO agreed to pay $215 million to the state of Montana and $18.3 million to the Confederated Salish and Kootenai Tribes. The tribal payment, made because of damage to off-reservation tribal resources guaranteed to the tribes under the 1855 Treaty of Hellgate, was to be dedicated to the restoration of both bull trout and wetland and riparian habitat within the Flathead Reservation to compensate for the loss of those resources in the Upper Clark Fork basin. The state payment went directly toward restoration in the Upper Clark Fork itself, including the removal of contaminated tailings from Silver Bow Creek, reconstructing stream channels, and creation of permanent storage areas for the contaminated tailings and sediments. By 2007, biologists found that trout -- including a few native westslope cutthroat -- had returned to Silver Bow Creek.[191]

In the Blackfoot River valley, an immense proposed gold mine in the upper Blackfoot River valley appears to have been stopped by Initiative 137, passed by Montana voters in 1998, which banned cyanide heap-leach mining in Montana. Since then, great strides have been made by grassroots groups, local ranchers, and land conservancies to protect riparian habitat and open space in the valley.

In the year 2000, the Confederated Salish and Kootenai Tribes secured an agreement with Pennsylvania Power and Light of Montana and the Federal Energy Regulatory Commission for the operation of Kerr Dam, with considerable funds dedicated to restoration of damaged fisheries and aquatic resources. The agreement stipulated that the dam would now be managed as a base-load rather than peaking facility, allowing for the maintenance of more natural flow regimes in the Flathead River.[192]

In 2003, a fish ladder was placed on the small dam in Rattlesnake Creek near Missoula, and for the first time in a century, the bull trout of *Nłʔay* -- Place of the Small Bull Trout -- could reach their spawning beds. That same year, the utility company PPL Montana erected a temporary fish ladder at the Thompson Falls dam; a permanent one was constructed in 2010, complete with sorting tanks where biologists pass bull trout and other native fish up the ladder, but leave non-native fish behind.[193] In the near future, we may see the return of the fluvial, if not adfluvial, bull trout to the Flathead and upper Clark Fork rivers.

In 2006, tribes, community and environmental organizations, and the Avista Corporation reached the Clark Fork Settlement Agreement, with a plan to mitigate damages to bull trout and other species caused by Cabinet Gorge Dam. Biologists transported 68 adult bull trout over the dam -- the first time in a half-century that the fish had continued upriver at that site.[194]

March 2008: Milltown dam is breached.
Photo by Thompson Smith.

In 2008, on its 100th anniversary, the Milltown Dam was removed -- restoring the confluence

of the Clark Fork and Blackfoot Rivers and capping years of effort by citizens organizations, government agencies, and the Confederated Salish and Kootenai Tribes. The deconstruction of the dam required the prior removal of some 6.6 million cubic yards of highly toxic tailings that had washed downstream from Butte, Anaconda, and other locations and settled behind the structure. The contaminated sediments behind the dam were transported by train to long-term containment sites near Anaconda.[195]

In early 2010, more good news came for bull trout, as the governments of British Columbia and Montana agreed to protect the North Fork of the Flathead River, an undeveloped, ecologically pristine area along the western edges of Waterton and Glacier National Parks. The river and its tributaries -- the northern headwaters of the entire Flathead system -- provide the single most productive remaining habitat for fluvial and adfluvial bull trout. In 2003, biologists counted 62 bull trout redds in the uppermost reaches of the North Fork; by 2006, the number had increased to 78.[196] For over thirty years, however, energy and mining corporations had pushed for the development of enormous open-pit coal mines, vast coalbed methane projects, and gold mines in the Canadian Flathead. In 1982, the first proposed coal mines prompted the state of Montana to establish the Flathead Basin Commission, a group of officials and citizens, including tribal representatives, charged with protecting the exceptional water quality of the basin. The long efforts of many concerned people finally paid off in February 2010, when the British Columbian Premier and Montana's Governor signed a Memorandum of Agreement that bars future mining and drilling on both sides of the border.

In spite of this vitally needed protection of the region's last best habitat for bull trout, there is one threat to the fish's survival that remains a profound concern. Global warming is not just

a future possibility. It is unfolding now, and with ever increasing momentum. Bull trout are a species completely dependent upon the continued availability of very cold water. They are therefore particularly vulnerable to the warming temperatures predicted in western Montana by most climatologists, including the University of Montana's Dr. Steve Running. As a prominent member of the United Nations' Intergovernmental Panel on Climate Change, Dr. Running served as one of the lead authors of the UN's 2007 reports on the state of climate change; he was a co-recipient of the Nobel Peace Prize awarded to the IPCC in the fall of 2007. Dr. Running and others have projected, in coming decades, dramatic reductions in the region's snowpack. If their forecasts hold, streams will become drier and warmer in late summer and early fall. These trends must be reversed if bull trout and many other species are to survive. The world's climate scientists are in overwhelming agreement that the situation is dire, and the need for action urgent. Their message to us is clear: if catastrophe is to be averted, if life on earth as we have known it is to continue, the world's alarming increase in greenhouse gases must be reversed. That is a task of unprecedented scale and complexity. It will require governments, businesses, and citizen organizations at all levels -- national, international, and local, from the Jocko River to the United Nations -- to mount a global effort to reduce atmospheric concentrations of carbon dioxide, methane, and other gases.

The difficulty of these global problems does not diminish the importance of local efforts to heal our damaged environment. If anything, the mounting ecological crisis only means that it is more vital than ever that every community on our fragile planet strives to care for its resources and to reestablish sustainable ways of life. Perhaps it is only fitting that one of the most visionary of such efforts focuses on bull trout and tribal people in western Montana: the

Germaine White with reservation schoolchildren at the CSKT Jocko River restoration project, 2008. Photo by David Rockwell.

Confederated Salish and Kootenai Tribes' Jocko River Restoration Project. The project, which readers can explore in the rest of this DVD, may well stand as a model for communities throughout the bull trout's historic range, and for people elsewhere working on similar problems. Unlike many other restoration efforts, the Tribes are not planning to aggressively and directly manage the fish. They are not raising bull trout in hatcheries and transporting and reintroducing them to various areas. Instead, they are focusing on the restoration of habitat. By re-creating the "clear, cold, connected, and complex" river and stream environments that bull trout need, the Tribes believe they are giving the fish its best chance of surviving -- and, in time, of regaining its former abundance. It is a restoration plan that follows the cultural teachings of the elders: the world was made good for the animals and human beings, and we should keep it that way. For years now, the Tribes' Natural Resources Department has taken this approach: receiving guidance and strength from the wisdom and prayers of the elders, and then implementing those old cultural values with a highly trained and technically sophisticated staff.

The work of rebuilding a more sustainable society, and of restoring a healthier environment -- for people and for bull trout -- will never be completed. In our efforts to regain the world that Coyote prepared for us -- to restore some measure of the good way of life he established -- we must try to ensure that "this most excellent fish" swims through the waters of the Salish, Pend d'Oreille, and Kootenai people for many generations yet to come.

ENDNOTES

Abbreviations:

CSKT	Confederated Salish and Kootenai Tribes
SPCC	Salish-Pend d'Oreille Culture Committee, Confederated Salish and Kootenai Tribes. Access to SPCC archives, generally reserved for CSKT tribal members only, is obtained only through permission of Director, SPCC, P.O. Box 550, St. Ignatius, MT 59865.
SPCC tape _____	Audio recorded oral histories by tribal elders in collections of SPCC
SPCC video ___	Video recorded oral histories by tribal elders in collections of SPCC
SPCC wi _____	Noted but generally not recorded information by tribal elders in collections of SPCC

Introduction

1. Mitch Smallsalmon, SPCC tape 178, side 1 (1977). All passages from SPCC transcripts are used with permission of Director, Salish-Pend d'Oreille Culture Committee, Confederated Salish and Kootenai Tribes. These transcripts are the product of decades of painstaking work by elders and culture committee staff members in creating a priceless tribal oral history archive, including interviewing, translating, transcribing, computerizing, and indexing. Tapes were translated by numerous past and present SPCC staff members, including Dolly Linsebigler, Tony Incashola, Felicite McDonald, Clarence Woodcock, Johnny Arlee, Shirley Trahan, Josephine Quequesah, Chauncey Beaverhead, Jeanette Conko, Peter Finley, and Lucy Vanderburg. Bilingual transcripts by Shirley Trahan, Tony Incashola, Chauncey Beaverhead, Lucy Vanderburg, and Clarence Woodcock, with final review and approval by Mr. Incashola and Ms. Trahan. Computerization and indexing of the transcripts also required years of effort by many staff members. Without the hard work of all these dedicated SPCC staff members, the generous sharing of the stories by the Salish-Pend d'Oreille elders themselves, and the years of steady support from the Tribal Council of the Confederated Salish and Kootenai Tribes, none of this information would be available.

2. *Aay* (written by some linguists as ʕí) is a truncated form of the full Salish word *aaycčst* (or *ʕíccst*); in common usage, many Salish speakers use a shorter form of many words, with longer versions reserved for use in special contexts such as ceremonies or formal speech -- or, in some cases, placenames. As noted later in this essay, the name for the confluence of the Clark Fork and Blackfoot Rivers (the area of present-day Bonner, Montana) is *Nʔaycčstm* (Nʕíccstm)-- Place of the (Large) Bull Trout.

Chapter 1: The Tribal World of the Northern Rockies

3. There are many published collections of Salish-Pend d'Oreille creation stories and Coyote stories, including:

Ellen Big Sam, "A Flathead Indian Tale," interpreted by Joe Big Sam, as told to George Weisel, *Journal of American Folklore* 65, no. 4 (Oct.-Dec. 1952): 359-360.

_____, "Ten Animal Myths of the Flathead Indians," interpreted by Joe Big Sam, as told to George Weisel, *Anthropology and Sociology Papers* 18 (Missoula: Montana State University (now University of Montana), 1959).

Ella E. Clark, *Indian Legends from the Northern Rockies*, 4th ed. (Norman: University of Oklahoma Press, 1977).

W.J. Hoffman, "Selish Myths," *Bulletin of the Essex Institute* 15 (1883): 23-40.

Louisa McDermott, "Ethnology and Folklore, Selish Proper," M.Sc. Thesis, University of California - Berkeley, 1904.

_____, "Folk-Lore of the Flathead Indians of Idaho: Adventures of Coyote," *Journal of American Folk-Lore* 14, no. 55 (Oct.-Dec. 1901): 240-251.

Duncan McDonald, "Indian Legend: How Missoula Got Its Name," *Bitterroot Journal* (Victor, MT) 4, no. 1 (Jan. 1978): 25.

W.H. McDonald, *Creation Tales from the Salish* (Billings, MT: Montana Indian Publication Fund, 1973).

Pierre Pichette, *Coyote Tales of the Montana Salish*, as told to Harriet Miller and Elizabeth Harrison, Exhibition of U.S. Department of the Interior, Indian Arts and Crafts Board (Rapid City, S.D.: The Tipi Shop, 1974).

Eneas Pierre, Agnes Vanderburg, and Sophie Adams, *Salish Folk Tales*, as told to Kathryn Law, interpreted by Agnes Vanderburg (Billings, MT: Montana Indian Publications, 1972).

Michel Revais, "Pend d'Oreille Tales," as told to James A. Teit, *Memoirs of the American Folk-Lore Society* 11 (1917): 114-118.

Agnes Vanderburg, Ignace Pierre, Jerome Lumpry, and Adele Adams, *Tales from the Bitterroot Valley, and Other Salish Folk Stories,* as told to Kathryn Law, interpreted by Agnes Vanderburg (Billings, MT: Montana Indian Publications, 1971).

4. Some examples of Coyote stories that may be in part a collective memory of the ice age or the distant past include Pete Beaverhead, "Origin of seasons: Q^{w}oxmineʔ and Stolemtq^{w}," SPCC Tape 3, side 1 and side 2 (1975), and "White Beaver, Wolf Brothers, and Wild Horse Island," SPCC tape 42, side 2 (1975); "Coyote Whips the Cold Man," in McDermott, Ethnology, 47-48; "South Wind and the Cold," in McDermott, Ethnology, 51-53; "Coyote Whips the Wind," in McDermott, Ethnology, 54; "Bluejay Brings the Chinook Wind," in Clark, *Indian Legends*, 112-114, and "Thunderbird, North Wind, Bluejay, Origin of Chinook Wind, and Today's Seasons," in McDonald, *Creation Tales*; Eneas Pierre, "World destroyed by great flood," SPCC tape 13, side 2 (1975); "Coyote and the Dam on the Columbia," in McDermott, Ethnology, 18-19, and also mentioned in numerous other

stories, including "Coyote and the Black Clam Women," McDonald, *Creation Tales*, as well as Duncan McDonald, "Coyote Brings the Salmon Up the Streams," *Bitterroot Journal* (Victor, MT) 4 , no. 1 (Jan. 1978): 25; Lucullus McWhorter, "The Great Flood in the Flathead Country," in Clark, *Indian Legends*. Other stories may contain more metaphorical or less literal references to features of the end of the ice age, such as the location of terminal moraines or the southernmost limit of the glaciers, such as the story of the "swallowing monster" in the Jocko Valley and the starving animals living within its immense body (this story appears in many sources, including Vanderburg et al, *Tales from the Bitterroot*, and Pichette, *Coyote Tales*.

5. Several archaeological sites within traditional Salish-Pend d'Oreille territories on both sides of the Continental Divide have been dated to the period around the end of the ice age. On the east side, these include the Anzick site along Flathead Creek near Wilsall, Montana, dated to about 10,500 years before present, and the McHaffie site south of Helena near Montana City, about 9,500 B.P. (before present). In the Northern Rockies and in sites west of the Divide, points have been found that suggest use of the mountains 8,000 to 10,000 B.P., and an excavated site in Powell County has been dated to over 9,000 B.P. Near Helmville, Montana, in the Blackfoot River drainage, materials have been found in layers beneath a discreet deposit of volcanic ash dated to about 6,750 B.P. The absence of even earlier archaeological sites in western Montana may be due to not only the effects of the last ice age, but also to more complicated geological structures with less stable sedimentary deposits. Some of the traditional stories seem to suggest that Salish-Pend d'Oreille ancestors were already here when the ice age began. Archaeological information courtesy personal communication from Stan Wilmoth, Montana State Historic Preservation Office, October 17, 2007. See also George C. Frison, *Prehistoric Hunters of the High Plains*, 2nd ed. (San Diego and London: Academic Press (Elsevier), 1991), and David Alt, *Glacial Lake Missoula and Its Humongous Floods* (Missoula, MT: Mountain Press Publishing Co., 2001).

6. SPCC oral history archives, and the notes and published writings of ethnographers such as James Teit, Claude Schaeffer, and Carling Malouf, provide a nearly unanimous sense that the Salish and Pend d'Oreille bear a direct connection to the earliest human inhabitants of the region. They also agree on the tribes having no traditions of having originated elsewhere.

Other sources, generally less authoritative but still important, do suggest an ancient migration into western Montana, although even they do not tell of other people having preceded the Salish or Pend d'Oreille. The most interesting example is the account gathered by the WPA writer Bon Whealdon, in which Whealdon reports Pend d'Oreille elders as saying in the 1920s, "We know only the story our old men told our men down from the beginning: the first Salish were driven down from the country of the big ice mountains, where there were strange animals. Fierce people who were not Salish drove them south. So in our stories our people have said, 'The river of life, for us, heads in the north.'" Clark, *Indian Legends*, 92-93. Whealdon's work is important; he interviewed a number of people in the Salish and Pend d'Oreille communities of the early to mid-twentieth century, including Alex Beaverhead, Eneas Conko, John Delaware, Louise Finley, David Finley, Joseph and Tom McDonald, Mose Michel, Blind Michel, Charley Michel, Dominic Michel, Antoine Morigeau, Philip Pierre,

Quequesah, Lassaw Redhorn, Francois Skyema, and Mrs. Allen Sloan. It also true that he was not a trained ethnographer, and the phrasing suggests Whealdon may have employed some artistic license. His translators are listed by Ella Clark as having been Harry Burland and Thomas Eulopson. Tribal elders alive today say Burland was not to their knowledge a fluent speaker, so he may have served as a transcriber. Eulopson is listed in the 1926 tribal census as a full blood married to Lucy Kickinghorse, with a child born in 1920. By the 1933 census neither the wife nor the child is mentioned, so they might have died in the interim.

By contrast, the work of the Boasian ethnographer James Teit indicates that elders in the early twentieth century made no mention to him of tribal migration into the region. "The Pend d'Oreille," Teit wrote, "appear to have been in their late habitat a long time...The Pend d'Oreille consider the Flathead to be the head or parent tribe of the Flathead group and next to the Kalispel their nearest relations. I heard of no migrations of the tribe." Teit reported the same for the Salish. Teit was fluent in Thompson, the Salishan language spoken by his wife, and he worked closely with Michel Revais, the preferred translator of the Salish head chief, Charlo (and his son, Martin Charlo). While Whealdon rarely if ever recorded any terms in Salish, Teit's written representations of Salish words are so accurate as to be almost always recognizable today to both fluent elders and Salishan linguists. Teit also carried out the most thorough and wide-ranging anthropological investigation of tribal origins and territories in the Northern Rockies and surrounding regions, interviewing numerous elders from many of the tribes. In the course of that work, he apparently heard no stories of the Salish or Pend d'Oreille moving into Montana from other places. James Teit correspondence within Franz Boas papers, American Philosophical Society, Philadelphia, PA (Collection B B61), folder: Tribal territories and boundaries, p. 54/20, also 53/19 and 55/21.

7. The accounts of the elders, including several recordings by Pete Beaverhead, tell us that this huge dispersion was a "downstream" or westward movement, that Montana was the homeland of the original Salish Nation. Some anthropologists and linguists, drawing in part from ethnobotanical and ethnozoological evidence, have argued that the Salish originated closer to the Pacific Coast, and migrated inland. See, for example, M. Dale Kinkade, "Prehistory of Salishan Languages," in *Papers for the 25th International Conference on Salish and Neighboring Languages*, 197-208 (Vancouver: University of British Columbia, 1990). Kinkade concludes that the weight of evidence suggests an origin in the Fraser River valley. However, there are numerous unanswered questions in Dr. Kinkade's article; he reconstructs proto-Salish words for some species that only occur on the coast, but also for some that only occur in the interior. And other scholarly work is in general agreement with what the elders have recounted, including the ethnographic research of James Teit (see FN 6) and Claude Schaeffer, who conducted extensive work on the Flathead Reservation during the 1930s. Elders of Salishan tribes in Washington State told Teit, for example, that the Montana Salish spoke "the proper or purest dialect" and both they and the Pend d'Oreille regarded the Salish as "the head or parent tribe." American Philosophical Society, Philadelphia, manuscript collections #2446 (Teit, James A., "Notes to maps of the Pacific northwest" [1910-1913]) and #3207 (Teit, James A., "Salish tribal names and distributions" [1907-1910]), and James Teit correspondence within Franz Boas papers, Collection B B61, folder: Tribal territories and boundaries, p. 54/20 and 55/21.

8. Steve Egesdal, Ph.D. (Salishan linguist), personal communication, 2001, and M. Dale Kinkade, personal communication to Prof. Sarah Thomason, 2002. Thomason recalls Kinkade estimating to her that Salish language diffusion occurred about four thousand years ago. Paul D. Kroeber has written that "There are enough Salish languages that it should be possible to reconstruct in detail a protolanguage of fairly considerable time depth -- while Swadesh's (1950) glottochronological estimate of 6000 years as the age of the family is certainly too great, 3000 years at the very least would be a reasonable guess on the basis of the morphological diversity displayed by the present-day Salish languages." From *The Salish Language Family: Reconstructing Syntax* (Lincoln and London: The University of Nebraska Press, 1999), 1.

9. For an overview of tribes and tribal cultures of the region, see Deward E. Walker, Jr., ed., *Vol. 12: Plateau*, Handbook of North American Indians, ed. William Sturtevant (Washington, D.C.: Smithsonian Institution, 1998). The sections focusing on the Salish and Pend d'Oreille are "Flathead and Pend d'Oreille," by Carling I. Malouf, 297-305, and "History," by Thompson R. Smith, 305-312. See also Smith, "The Salish (*Sélič* or 'Flathead') and Pend d'Oreille (*Q̓lispé*): History of Relations with Non-Indians," author's final submission (pre-edited), 1997, for Walker, Jr., ed., *Vol. 12: Plateau.*

10. Deward E. Walker, Jr. has noted that "chiefs depended strongly on public opinion and their own persuasive abilities." *Conflict and Schism in Nez Perce Acculturation* (Pullman: Washington State University Press, 1968), 18. The early fur trader Alexander Ross wrote, "in all ordinary matters the chief is not more conspicuous than any other individual, and he seldom interferes in...the ordinary routine of daily occurrences." Ross, *Adventures of the First Settlers on the Oregon or Columbia River* (London: Smith, Elder, and Co., 1849; reprinted, ed. Milton Milo Quaife, Chicago: Lakeside Press, R.R. Donnelly & Sons Co., 1923) (page references are to the 1923 edition), 227.

11. A seminal economic analysis of tribal hunter-gatherers is Marshall Sahlins, "The Original Affluent Society," in his *Stone Age Economics* (New York: Aldine Publishing Co., 1972), 1-39, which overturned much of the previous scholarship by asserting, on the basis of extensive fieldwork among the !Kung people of the Kalahari desert, that the !Kung -- contrary to the usual depiction of hunter-gatherers as engaged in a constant struggle for survival -- in fact quite easily met their food and material needs, and had a great deal more leisure time, on average, than people in western industrialized societies.

We can see some indication of the influence of the work of Sahlins and others, as well as the rising voice of native people in telling their own history, in reframing the understanding of the earlier periods of the Native American past, in the essay on "Archaic Indians" by David Hurst Thomas of the Smithsonian's American Museum of Natural History, published in Frederick E. Hoxie, ed., *Encyclopedia of North American Indians* (New York: Houghton Mifflin Co., 1996), 35-37. Thomas's essay engages with close consideration of the ramifications of archaeological discoveries such as Poverty Point in Louisiana, and concludes with the sweeping statement that the "nonspecialized economies" of hunter-gatherer-fishers "have a demonstrated longevity and a degree of cultural stability and survival unknown in today's world."

But Sahlins' essay, and similar challenges to older anthropological orthodoxies, have not always received support from researchers. For a largely oppositional view, see Ernest S. Burch, Jr. and Linda J. Ellana, eds., *Key Issues in Hunter-Gatherer Research* (Oxford, U.K.: Berg, 1994). Three papers in this collection -- by David Yesner, Victor Shnirelman, and Nicholas Blurton Jones, Kristen Hawkes, and Patricia Draper -- challenge Sahlins' conclusions about hunter-gatherer "affluence," arguing to the contrary, on the basis of examination of a number of nonagricultural groups, that "'affluence' in any useful sense of the term is not characteristic of many hunter-gatherer societies." Burch, Jr. and Ellana, eds., 149.

For a collection of essays generally supportive of Sahlins, see John Gowdy, ed., *Limited Wants, Unlimited Means: A Reader on Hunter-Gatherer Economics and the Environment* (Washington, D.C.: Island Press, 1998). Gowdy notes that the study of hunter-gatherers in the earth's most extreme environments -- such as the Kalahari and the Arctic -- have helped reinforce certain assumptions about "a precarious hunting subsistence base," and that this mode of subsistence was considerably easier in more temperate regions. Gowdy advocates "a shift in focus away from the dramatic and unusual cases, and toward a consideration of hunting and gathering as a persistent and well-adapted way of life." Gowdy, ed., 61.

See also Peter Rowley-Conwy, "Time, Change, and the Archaeology of Hunter-Gatherers," in Catherine Painter-Brick, Robert H. Layton, and Peter Rowley-Conwy, eds., *Hunter-Gatherers: An Interdisciplinary Perspective*, Biosocial Society Symposium Series (Cambridge, U.K. and New York: Cambridge University Press, 2001). Rowley-Conwy concludes that "the flexibility, mobility, and social equality of the Original Affluent Society may be the most remarkable and specialised social form that humans have ever evolved." Painter-Brick, Layton, and Rowley-Conwy, eds., 65.

One of the most nuanced, deeply historicized, and systemic examinations of tribal economies, and issues of culturally defined poverty and abundance, is William Cronon's *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1984). See especially chapter 3, "Seasons of Want and Plenty," and chapter 4, "Bounding the Land."

12. The anthropologist Angelo Anastasio reached the conclusion that there was virtually no "similarity between...white 'commercial' exchange...[and] the giving and exchange of gifts" in the tradition of Plateau tribes. Anastasio saw fundamentally differing logics governing gift-giving traditions (and even barter trade within the tribal context) and market exchange, in which participants are self-interested competitors vying for advantage and profit. Anastasio, "The Southern Plateau: An Ecological Analysis of Intergroup Relations," *Northwest Anthropological Research Notes*, University of Idaho Laboratory of Anthropology, 6 (Fall 1972), 170. William Cronon has noted that in colonial New England, "More than anything else, it was the treatment of land and property as commodities traded at market that distinguished English conceptions of ownership from Indian ones." *Changes in the Land*, 75.

13. Deward E. Walker, Jr. has concluded that tribes of the region had "weakly developed...notions of territoriality and trespass." *Mutual Cross-Utilization of Economic Resources in the Plateau*, Washington State University Laboratory of Anthropology Report of Investigations no. 41 (Pullman: Washington State University, 1967), 39. Salish-Pend d'Oreille elders have stated that in general they were on friendly terms with tribes to the west.

Nevertheless, there are also records of occasional inter-tribal conflict between tribes based west of the Continental Divide, particularly between tribes lacking a linguistic connection. The field notes of anthropologist Claude Schaeffer, who interviewed many Salish, Pend d'Oreille, and Kootenai elders in the 1930s during fieldwork on the Flathead Reservation, include numerous references to such occasional conflicts; see also Anastasio, 147 and 151. As with inter-tribal conflict in many parts of the Americas prior to the disruptions of the last 200 to 500 years, these battles tended to have a highly symbolic quality and relatively low mortality. For example, in 1826, the naturalist David Douglas observed a highly ritualized inter-tribal conflict near the confluence of the Snake and the Columbia rivers, in which "an old quarrel" flared up and members of the two tribes faced each other dressed in full regalia, "painted....some red, black, white, and yellow." After a "whole day spent in clamour and haranguing....Peace was signed and sealed by an exchange of presents." According to Douglas, this was for tribal people "the usual way." David Douglas, *Journal Kept by David Douglas During His Travels in North America*, ed. W. Wilks (London: William Wesley & Sons, 1914), 206 and 201.

The incident Douglas observed -- a conflict ending in gift-giving -- illustrates how symbolic confrontations ultimately served the inter-tribal economic and cultural system of the region. Both a general state of peace, and also dispersed tribal territories, were necessary for the proper functioning of the inter-tribal economic system. Without the maintenance of localized tribal or band identities, the system of exchanging regional surpluses of locally abundant resources would have broken down. Among other things, these skirmishes reinforced tribal identity and tribal territoriality, and preserved the dispersed nature of tribal population in the Northern Rockies and the Plateau, spread across the varying ecological sub-regions of the Plateau.

See also Theodore Stern, "Columbia River Trade Network," in Walker, Jr., ed., *Vol. 12: Plateau*, 641-652. Stern notes that "Flatheads valued the watertight bags and tasty roots of the Nez Perce, who in turn found superior the dried meat and dressed deerskins produced by the Flathead." Stern goes on to detail an account of Salish-Nez Perce exchange from Harry Holbert Turney-High's ethnography of the Salish, but that work is on the whole regarded by most Salish scholars and elders as the least reliable of the anthropological texts about the tribe. "The Flathead Indians of Montana," *Memoirs of the American Anthropology Association*, 48 (Menasha, WI: American Anthropology Association, 1937).

14. See Tom E. Roll and Steven Hackenberger, "Prehistory of the Eastern Plateau," in Walker, Jr., ed. *Vol. 12, Handbook of North American Indians: Plateau*, 120-137. We have a long way to go before arriving at a more truly historicized understanding of older periods of tribal history. Perhaps this is reflected in the persistent use, mainly by anthropologists, of inherently nonsensical terms such as "proto-history" and "prehistory" -- not for periods before there was a human presence on the land, but merely before there were Europeans or European influences.

15. See Walker, Jr., *Mutual Cross-Utilization*. David Hurst Thomas has written, "While always retaining an essential 'Indianness,' Native American cultures adapted over many centuries to regional extremes of temperature and climate, to the mountains, the deserts, the woodlands, and the prairies of the North American continent." Hoxie, ed., *Encyclopedia*, 35.

Chapter 2: The Importance of Bull Trout and Fishing in the Tribal Way of Life

16. See Walker, Jr., ed., *Vol. 12, Handbook of North American Indian: Plateau*, 298. This territorial description includes the Kalispels, sometimes referred to as the lower Pend d'Oreille.

17. Roll and Hackenberger note that "anadromous fish represent the only significant food resource for which a presence/absence contrast exists between the two regions of the Eastern Plateau," in reference to those distinct areas above and below major falls on the various rivers that blocked further upstream movement of salmon. "Prehistory of the Eastern Plateau," in Walker, Jr., ed. *Vol. 12, Handbook of North American Indians: Plateau*, 120. The Northern Rockies' lack of megafoods could arguably be extended to the eastern Plateau, whose tribes, interestingly, were so closely tied to the Salish and Pend d'Oreille in the region's intertribal economy and culture. For although salmon reached the territories of the Kalispel, Spokanes, Colvilles, and others, by the time they got there, they were of rather poor quality. Richard White has noted that a salmon caught by the Nez Perce near the Snake River contained only 52 percent of the caloric value it had when it began its journey at the mouth of the Columbia. *The Organic Machine* (New York: Hill and Wang, 1995), 17. Bull trout, incidentally, probably did not suffer nearly as great a degradation in caloric value as they swan upstream to spawn. Although there appear to be no studies as yet documenting this issue for bull trout (a reflection of the paucity of research funds dedicated to bull trout as compared to salmon), bull trout swam far shorter distances to spawning beds than did most salmon, and unlike salmon, they did not expend all their energy in the process. Indeed, fluvial and adfluvial bull trout, once they reached adulthood, spawned every year in food-rich river systems, and every other year in less abundant environments.

18. For an illuminating exploration of the dynamic environmental history surrounding the decimation of American bison and native peoples, see Andrew C. Isenberg, *The Destruction of the Bison: An Environmental History, 1750-1920* (New York: Cambridge University Press, 2000). Isenberg traces the history of increasing native dependence on bison, partly in response to the major transformations of the eighteenth century -- particularly the introduction of horses and non-native diseases such as smallpox. Isenberg reveals how the increasing dependence of Plains tribes on bison made both more vulnerable, particularly as the market forces of the nineteenth century intensified the demand for hides and meat. Those historical trends certainly also apply to the Salish and Pend d'Oreille (and other more westerly tribes) -- but to a lesser extent. That difference of degree, which had significant implications for the well-being of the tribes, was in part due to the greater abundance of fish and other food resources west of the Continental Divide.

For an indication of the extent of climate change in the region in the millennia following the end of the ice age, see also Mark E. Lyford, Julio L. Betancourt, and Stephen T. Jackson, "Holocene Vegetation and Climate History of the Northern Bighorn Basin, Southern Montana," *Quaternary Research* 58 (2002), 171–181. The authors found that there was significant climatic cooling between 4400 and 2700 years B.P., with marked changes in the occurrence of juniper species in the area they examined. See also William W. Locke, "Late

Pleistocene glaciers and climate of western Montana," *Arctic and Alpine Research*, vol. 22 (1990), 1-13. Geologists date the current epoch, the Holocene, as beginning about 11,700 B.P., around the time the ice age ended in western Montana. Within the Holocene, some scientists define "chronozones," including the Preboreal (10,000-9,000 B.P.), Boreal (9,000-8,000), Atlantic (8,000-5,000), Subboreal (5,000-2,500) and Subatlantic (2,500-present). Even within the Subatlantic chronozone, it is probable that there were also significant climate events of smaller duration of similar magnitude to the "year without summer" in 1816, following the eruption of Mt. Tambora in Indonesia in 1815. Stratovolcanoes of comparable violence exploded in 969 A.D. (Baekdu Mountain on the Korean-Chinese border) and c. 186 A.D. (Lake Taupo, in New Zealand).

19. Salish elders told James Teit in the early twentieth century that "although buffalo were very plentiful in their territory they were difficult to hunt, and as other game was also very plentiful buffalo was not the all important ~~food &~~ animal for food, and clothing that if afterwards became[.]" (Strikethrough in original.) James Teit correspondence within Franz Boas papers, collection B61, folder "Tribal territories and boundaries," American Philosophical Society, Philadelphia, PA. As late as the 1830s, the fur trader William Ferris observed bison along the upper Clark Fork River. Ferris, *Life in the Rocky Mountains: A Diary of Wanderings on the sources of the Rivers Missouri, Columbia, and Colorado, 1830-1835*, ed. Leroy R. Hafen and with a biography of Ferris by Paul C. Phillips (Denver: the Old West Publishing Company, 1983), 233.

20. In the SPCC archives, tribal elders have related many stories of going west for salmon, and early ethnographers also referred at numerous points to this part of the subsistence strategy. Some accounts describe fishing in places such as the Clearwater River drainage in Idaho, while others describe traveling to major fishing sites such as Kettle Falls, where people fished for *smłi* (general term for salmon), *nt̓k^{w}us* (sockeye), and *x^{w}méne?* (steelhead). Reports of Salish and Pend d'Oreille people going west for salmon also turn up in many government records. During hearings of the Indian Claims Commission in Missoula, Montana in 1952, Salish elder Ellen Bigsam spoke to the court of the Salmon River country in central Idaho, saying, "I know everything over in that country.... We go over there hunt deer, white tail deer, black tail deer and salmon; fish salmon." One of the expert witnesses who testified before the commission, E.O. Fuller, noted frequent Salish visits to Nez Perce territory, for which "probably the principal motive" was fishing for salmon. George Tunison, *Depositions Filed Before the Indian Claims Commission* (Docket 61: Confederated Salish and Kootenai Tribes of the Flathead Reservation, Montana, Petitioner, vs. the United States of America, Defendant, taken at Missoula County Courthouse, Missoula, MT: October 27-31, 1952), Vol. 2., pp. 8-9, and Vol. 1, pp. 331-332.

21. I.I. Stevens, *Report of Explorations for a Route for the Pacific Railroad near the Forty-seventh and Forty-ninth Parallels of North Latitude, from St. Paul to Puget Sound*, 33rd Congress, 2nd sess., House Executive Doc. No. 91, serial 791 (Washington, D.C.: 1855), Vol. 1, 326 and 321.

22. Stevens, *Report of Explorations*, 328. The citations in this and the previous endnote are only typical examples of the seemingly contradictory observations of abundance and scarcity that appear throughout the Stevens reports. For observations of abundance, see also pp. 262, 263, 264, 278, 305-306, 308, 310, 312, 327, 332, 333, 339, 340, 342, 343, 348, 349, 520, 521, 526, 530. For observations of scarcity, see also pp. 262, 303, 304, 311, 312, 313, 314, 316, 327, 328, and 337.

23. See Salish-Pend d'Oreille Culture Committee and Elders Advisory Council, Confederated Salish and Kootenai Tribes, *The Salish People and the Lewis and Clark Expedition* (Lincoln: The University of Nebraska Press, 2005), 91-108.

24. Suttles' landmark essay, "Coping with Abundance: Subsistence on the Northwest Coast," appeared in the influential anthology *Man the Hunter*, ed. Richard Lee and Irvin DeVore (Chicago: Aldine, 1968), 56-68.

25. See the award-winning interactive DVD *Fire on the Land*, by the Confederated Salish and Kootenai Tribes (Lincoln: distributed by the University of Nebraska Press, 2007) for scientific material on the ecology of fire, cultural information on the tribal conception of fire, and a series of forty historical essays, by the author of this essay, on the tribal use of fire and its repression over the past two centuries.

26. Donald Hardesty has noted that for hunter-gatherers, "a large quantity of starchy roots may not be nearly as important as...a small quantity of high-quality protein." He adds that "a food available only in small quantity and ordinarily ignored may be the one that at critical moments prevents starvation." *Ecological Anthropology* (New York: John Wiley & Sons, 1977), 112 and 115. See also Loren Cordain, Janette Brand Miller, S. Boyd Eaton, Neil Mann, Susanne H.A. Holt, and John D. Speth, "Plant-animal subsistence ratios and macronutrient energy estimations in worldwide hunter-gatherer diets," *American Journal of Clinical Nutrition*, vol. 71 (2000), 682-692. This study is by its very nature broad and generalized, but the authors do note that "whenever and wherever it was ecologically possible, hunter-gatherers consumed high amounts (45-65% of energy) of animal food," with protein constituting 19 to 35% of food energy consumed, carbohydrates 22 to 40%, and fats 28 to 58%. By comparison, the authors say, the average percentages in the contemporary U.S. diet are 15.5% from protein, 49% from carbohydrates, and 34% from fat. The authors also cite "anthropologic and medical studies of hunter-gatherer societies" indicating "that these people were relatively free of many of the chronic degenerative diseases and disease symptoms that plague modern societies and that this freedom from disease was attributable in part to their diet." For an illuminating consideration of the parallels of native fishing practices in a different area (in this case, California), see Arthur F. McEvoy, chapter 2, "Aboriginal fishery management," in *The Fisherman's Problem: Ecology and Law in the California Fisheries, 1850-1980* (New York: Cambridge University Press, 1986).

27. Eneas Pierre, SPCC tape 13, side 2 (1975). On tape 39, side 2 (1975), Mr. Pierre states of the Stevensville winter camp, "A creek on the other side is where they spend their winters, because there were many fish there. That's where they would spend their winters."

28. U.S. Fish and Wildlife Service (USFWS), *Bull trout (Salvelinus confluentus) draft recovery plan,* Chapter 3, Clark Fork River Recovery Unit, Montana, Idaho, and Washington (Portland, Oregon: U.S. Fish and Wildlife Service, 2002) (hereinafter USFWS Clark Fork Recovery), 10: "The Bitterroot River is formed at the junction of the East Fork and West Fork Bitterroot Rivers near the town of Conner, Montana, and from there, the mainstem flows north...approximately 137 kilometers (85 miles) to the Clark Fork River near Missoula...The Bitterroot River has 27 major tributaries on the west side and 12 on the east side, many of which today contain resident bull trout populations. It is speculated, though not documented, that many of these populations historically had a strong migratory component."

29. Gordon W. Hewes, "The Rubric 'Fishing and Fisheries'," *American Anthropologist*, vol. 50, no. 2 (April-June 1948), 244. His essay was part of his Ph.D. dissertation, "Aboriginal Use of Fishery Resources in Northwestern North America" (University of California, Berkeley, 1947). Hewes interestingly noted that "In the ratio of weight to nutritional efficiency (measured in calories) dried salmon is superior to the cereals...The increased volume of food which intensive agriculture makes possible does not necessarily mean that the individual diets have improved in quality. The reverse is more likely."

30. James A. Teit, "The Salishan Tribes of the Western Plateaus," ed. Franz Boas, *Annual Report of the Bureau of American Ethnology*, no. 45 (1927-28), 348. Virtually all subsequent scholars studying the Salish and Pend d'Oreille repeated Teit's basic message of fish having almost no importance to the Salish, but somewhat greater importance to the Pend d'Oreille. None of the researchers went much farther than that; none developed a more sophisticated understanding of fish within the tribal modes of subsistence and tribal history.

A quarter century later, George Weisel almost repeated Teit verbatim: "Although fish were extensively used for food by the Flathead, fishing contributed much less to their livelihood than hunting." Like Teit, Weisel did make the point that in comparison to the Salish, the Pend d'Oreille, Kalispel, and Spokane "were much more dependent on fisheries." Weisel, "Ethnozoology of the Flathead Indians," *Journal of the Washington Academy of Sciences*, Vol. 42, no. 11, Nov. 1952, 346. Weisel also seems to have been simply incorrect in regard to both the extent of the native fishery and the relationship between fish as a food resource and the Salish mode of subsistence: "There were no large runs of fish in their streams that could be relied on to furnish ample provender at certain times of year." Weisel's erroneous statement regarding the fishery is surprising, given his authoritative knowledge of ichthyology in Montana -- among other things, he was the author of *Fish Guide for Intermountain Montana* (Missoula: Montana State University Press, 1957).

In his deposition before the Indian Claims Commission in 1952, the University of Montana anthropologist Carling Malouf presented a similar picture, but provided more detail in his description of Pend d'Oreille fishing practices: "Of the three tribes in the petition," he stated, "the Pend d'Oreille did more fishing. They had fish weirs, as David Thompson mentions in his book, at the mouths of many of these side streams, some of which we can specifically name near Thompson Falls.... We also have informant data that substantiates this. They also fished in Lake Pend d'Oreille, that is, they would go down there on occasion, and in Flathead Lake there was some fishing, but mainly in the streams. The Kootenai also fished for a good part of

their subsistence. The Flatheads did some fishing, but not to the extent of the other two groups." Tunison, *Depositions*, Vol. 1, p. 160.

Gordon Hewes, in his chapter on "Fishing" in Vol. 12 of the Smithsonian *Handbook of North American Indians*, gives similarly thin analysis to fishing among the Salish and Pend d'Oreille, even as he detailed the numerous methods employed by the tribes. Walker, Jr. ed., *Vol. 12: Plateau*, 631. Hewes looks in greater depth at Kootenai fishing, arguing that the "systematic" emphasis they gave to fishing "set them off from their Plains neighbors" and suggested a mode of subsistence more typical of Plateau cultures.

31. *Salvelinus* -- also known as char -- is the genus to which bull trout belongs within the *salmonidae* family of fish. Other members of the char or *Salvelinus* genus include *Salvelinus alpinus* (Arctic char), *Salvelinus malma* (Dolly Varden trout), *and Salvelinus fontinalis* (eastern brook trout).

32. Of those original populations, the McLoud River bull trout is now extinct, and many other populations have been reduced to the stream resident form, with the adfluvial and fluvial forms virtually eliminated by the construction of dams on mainstem rivers. Information and sources in this and the following three paragraphs provided by David Rockwell and Craig Barfoot, emails to author, Dec. and Jan. 2009.

33. For the adfluvial form of bull trout, Canadian scientists sometimes use the longer term "lacustrine-adfluvial." In the Puget Sound-Strait of Georgia region of the Pacific Northwest, Canadian researchers have found "slim" evidence for the existence of anadromous bull trout -- fish that, like ocean-going salmon, spawn in freshwater streams and grow into large adults in the sea. See J.D. McPhail and J. S. Baxter, "A review of bull trout (*Salvelinus confluentus*) life-history and habitat use in relation to compensation and improvement opportunities" (Vancouver, B.C.: Fisheries Management Report No. 104, Department of Zoology, University of British Columbia, 1996). McPhail and Baxter note that bull trout "has had a confused taxonomic history, and its specific distinction from the Dolly Varden (*Salvelinus malma*) is still in doubt. In the areas where the two nominal species overlap there is evidence of hybridization and even introgression." S.G. Cannings and J. Ptolemy, in "Rare Freshwater Fish of British Columbia" (Victoria, B.C.: Ministry of Environment, Lands, and Parks, 1998), say that "cytological and genetic studies suggest that a) these two char species are not sister taxa and b) that Dolly Varden are more closely related to Arctic char (*S. alpinus*) while bull trout are more closely related to the white spotted char (*S. leucomaenis*) of Asia." See also Montana Bull Trout Restoration Team, "Restoration plan for bull trout in the Clark Fork River basin and Kootenai River basin, Montana" (Helena, MT: Montana Department of Fish, Wildlife and Parks, June 2000); Montana Field Guide, Bull Trout — *Salvelinus confluentus*, retrieved 18 Jan. 2009, from http://FieldGuide.mt.gov/detail_AFCHA05020.aspx; and Montana Fish, Wildlife, and Parks webpage on bull trout, retrieved 18 Jan. 2009, from http://fwp.mt.gov/wildthings/tande/bulltrout.html.

34. Perhaps the majority of bull trout, if considered over their entire range, spawn every year. However, there are great variations in spawning frequency between populations inhabiting different river systems. One study in the Clearwater River of Alberta found that only

27% of tagged adult bull trout returned to spawn the next year. By contrast, a study in Flathead Lake suggests that an average year of about 60% of the adult bull trout in that system spawn every year. The oldest bull trout recorded to date was 24 years old, found in the upper North Thompson River of the Fraser system in British Columbia. David Rockwell, email to author, 18 Jan. 2009.

35. Females arrive at spawning sites -- called redds -- between August and November. There, the female swims onto her side and vigorously sweeps her caudal fin across the streambed to clean it of sediments, working to create a pit or nest. She then deposits her eggs, and an awaiting male covers the redd with a cloud of milt, after which the female covers the eggs with gravel. While the water must be very cold, it also must not freeze, so females often choose to create their redds in areas of streams where there are upwellings of groundwater that keep the temperature consistent. Successful redds also require sediment-free gravels and cobbles, and a constant flow of well-oxygenated water flowing over the buried, incubating eggs. Females therefore often locate their redds where a pool transitions to a riffle. There, the change in depth forces aerated water downward into the gravels and over the eggs. The remarkable process of redd construction is considerably more complicated and nuanced than is reflected in this very brief summary. For an excellent exposition of bull trout spawning, see the interactive DVD/website for which this essay was written, *Explore the River: Bull Trout, Tribal People, and the Jocko River* (Pablo, Montana: Confederated Salish and Kootenai Tribes, forthcoming 2011, to be distributed by the University of Nebraska Press). See also Montana Fish, Wildlife, and Parks webpage on bull trout, retrieved 18 Jan. 2009, from http://fwp.mt.gov/wildthings/tande/bulltrout.html.

36. See John J. Fraley and Bradley B. Shepard, "Life History, Ecology and Population Status of Migratory Bull Trout (*Salvelinus confluentus*) in the Flathead Lake and River System, Montana," *Northwest Science*, Vol. 63, No. 4, l989, 133-143. Scientists are now conducting genetic studies of bull trout in the Clark Fork River that may help determine, among other things, whether there were populations that covered the far greater distance from Lake Pend Oreille to the Clark Fork's headwaters near present-day Butte -- a total of over 560 kilometers (over 350 miles). This is certainly indicated by information from Salish-Pend d'Oreille elders, including the placename for Butte -- *Sntapqey*, meaning Place Where Something was Shot in the Head, in reference to the harvesting of bull trout in Silver Bow Creek using bows and arrows.

37. Joe Eneas, SPCC videotape, 20 Jan. 1993.

38. Joe Eneas, interview for video documentary *The Place of the Falling Waters* (Salish Kootenai College Media Center and Native Voices Public Television Workshop, 1991) (hereinafter SKC Falling Waters project), videotape #1011 (14 Jun. 1989). Videotapes from this project are archived at the Salish Kootenai College Media Center, Pablo, MT.

39. Harriet Whitworth, interviewed with Felicite McDonald, 5 Oct. 1999 (transcript at SPCC).

40. Joe Cullooyah, SPCC wi, 26 Mar. 1998.

41. Louie Adams and John Peter Paul, SPCC wi, 21 Apr. 1997. Mr. Adams also recalled that his father said he would watch for a school of *x̣*^{w}*ẏ̓ú* (mountain whitefish) swimming by, and when he would see that, he would throw in a baited hook right behind the whitefish -- and most of the time, he would reel in a bull trout. Louie Adams, SPCC wi, 15 Jan. 2009.

42. Keith Basso, in his landmark study *Wisdom Sits in Places*, notes the power of Western Apache placenames as windows into tribal history and culture: "The people's sense of place, their sense of their tribal past, and their vibrant sense of themselves are inseparably intertwined." Basso saw that placenames are, for the Western Apache, living history in the most literal sense: "the country of the past -- and with it Apache history -- is never more than a narrated place-world away." When Western Apache name their places, the narrator -- the "place-maker" -- has as his or her "main objective to speak the past into being, to summon it with words and give it dramatic form, they produce experience by forging ancestral worlds in which others can participate and readily lose themselves...thus performed and dramatized, Western Apache place-making becomes a form of narrative art, a type of historical theater in which the 'pastness' of the past is summarily stripped away and long-elapsed events are made to unfold as if before one's eyes. It is history given largely in the active present tense ('Now we are arriving...')." *Wisdom Sits in Places: Landscape and Language among the Western Apache* (Albuquerque: University of New Mexico Press, 1996), 35, 32, 33.

43. This is the indication of preliminary data issuing from the Salish-Pend d'Oreille Culture Committee's Ethnogeography Project. Final information will be presented in the culture committee's forthcoming tribal atlas, *Names Upon the Land – Sk*^{w}*sk*^{w}*stúlex*^{w}*s: A Geography of the Salish and Pend d'Oreille People.*

44. Ellen Big Sam told George Weisel that at this site, bull trout (Weisel uses the term "dolly varden"), "trout were caught with a baited hook and a line of woven horsehair, or snagged with bone hooks. Ellen Big Sam demonstrated how the bone hooks were manufactured from the scapula of deer. This thin, flat bone, when fresh, was fractured easily and the slivers fashioned into a barbed point, which was then fastened with sinews to a straight piece of bone or to a small stick." Weisel, "Ethnozoology," 347. In 1891, U.S. Fish Commission biologist Barton W. Evermann seined the creek and caught six bull trout "6 ½ to 10 inches long," even though the creek, and its suitability for bull trout, was already heavily impacted by upstream logging and the floating of logs downstream. Barton W. Evermann, "A Reconnaissance of the Streams and Lakes of Western Montana and Northwestern Wyoming," in *Bulletin of the U.S. Fish Commission*, XI (Washington, D.C.: U.S. Government Printing Office, 1892, 3-60), 50.

45. The commonly used Salish placename for the Missoula area, *Nɬ̓ay* (Place of the Small Bull Trout), employs the short form of the word for a stream-resident bull trout -- *aay*. The commonly used name for the Bonner area, *N̓aycčstm* (Place of the Large Bull Trout), employs the long form of the word for an adult fluvial or adfluvial bull trout, *aaycčst.*

46. Allan Smith, deposition material for Kalispel case before U.S. Indian Court of Claims, p. 561, VII 2 E 1 - 37.01 (366). Steve Egesdal, draft for Kalispel Cultural Program, 2005-12-26. MS in possession of SPCC.

47. Eneas Granjo, notes of interview apparently conducted by Carling Malouf, c. 1952, in University of Montana Archives, Paul Phillips papers, Box 4, File 4-17, Flathead Litigation, No. 61 -- Miscellaneous.

48. I.I. Stevens, *Report of Explorations*, 553, and Isaac I. Stevens, *Narrative and Final Report of Explorations for a Route for a Pacific Railroad, near the Forty-Seventh and Forty-ninth Parallels of North Latitude, from St. Paul to Puget Sound*, 1855, in *Reports of Explorations and Surveys, to Ascertain the Most Practicable and Economical Route for a Railroad from the Mississippi River to the Pacific Ocean,* made under the Direction of the Secretary of War, in 1853-5, According to Acts of Congress of March 3, 1853, May 31, 1854, and August 5, 1854, Volume XII, Book 1 (Washington: Thomas H. Ford, Printer, 1860), 212.

As we note, when Mullan used the vernacular term "salmon trout" in describing fish in the Blackfoot drainage, Flathead Lake, and other waters of western Montana, he was almost certainly referring to bull trout. Mullan at times mentions "trout" or "mountain trout," but at other times refers to "salmon trout," an apparent way of distinguishing between westslope cutthroat trout (*Oncorhynchus clarki lewisi*) and bull trout (at least the larger fluvial and adfluvial forms of bull trout), the only two trout native to western Montana. Note in the next passage quoted in this essay, Mullan gives a vivid description of bull trout harvested by Pend d'Oreille people in Flathead Lake, and refers to the fish as "salmon trout." His descriptions match those of bull trout.

Nevertheless, given the ambiguities of vernacular terms for fish or other plants and animals, it is worth tracing the term "salmon trout." While the *Dictionary of American Regional English* notes that the term *salmon trout* has been applied to "any of var[ious] freshwater or anadromous fishes of the family Salmonidae," it also notes the common application of the term in the Northwest to the "Dolly Varden" trout -- *Salvelinus malma*, a char formerly thought to be indistinct from bull trout. DARE further notes that according to Tabbert's Dictionary of Alaskan English (1991, p. 139), "In North American English *salmon trout* has been long and widely used to name various large fishes, including the lake trout, the cutthroat trout, and the steelhead. In Alaskan writing *salmon trout* has frequently been applied to the Dolly Varden." "Salmon trout," in Vol. IV, P-Sk, Joan Houston Hall, Chief Ed. (Cambridge, MA and London: The Belknap Press of Harvard University Press, 2002), 707; see also "Dolly Varden," in Vol. II, D-H, Frederic G. Cassidy, Chief Ed., Joan Houston Hall, Associate Ed. (Cambridge, MA and London: The Belknap Press of Harvard University Press, 1991), 126, and "bull trout," in Vol. I, A-C, Frederic G. Cassidy, Chief Ed. (Cambridge, MA and London: The Belknap Press of Harvard University Press, 1985), 453.

The usual application of the term "salmon trout" to trout of larger size is further reflected in the definition offered by the *American Heritage Dictionary*, which defines it as "broadly, any of various salmonlike fish, such as the brown trout, the lake trout, or the steelhead" (1973, p. 1145). In the April 1843 edition of the *Boston Journal of Natural History*, William O. Ayers wrote of a 15-pound brook trout caught on Long Island: "It was called by many who saw it a salmon trout, *on account of its great size* or perhaps some peculiarity in the coloring, but

the most experienced fisherman who was engaged in taking it (it was caught with a seine) considered it only a very large individual of the common brook trout." *Emphasis* added. Quoted in Nick Karas, *Brook Trout* (Guilford, CT: The Lyons Press, 1997), 11-12.

In the Columbia system, the term "salmon trout" was also often applied to steelhead trout (*Oncorhynchus mykiss*), the ocean-going variant of rainbow trout. Dennis D. Dauble states, "Most naturalists agree that Lewis and Clark's salmon-trout was an upstream migrating adult steelhead rather than another species of salmon." "Adventures in Ichthyology: Pacific Northwest Fish of the Lewis and Clark Expedition," *Columbia Magazine*, vol. 19, no. 3 (fall 2005). J.B. Tyrrell noted that "A local Indian name for the [Spokane] river is Sen-a-hom-a-na, meaning 'river of salmon trout.'" Tyrell was undoubtedly attempting a phonetic rendering of the Salish placename *Snx*^{w}*méne?*, which refers to the Spokane people and originally to their territory. The ethnographer James A. Teit, noted *Snx*^{w}*méne?* was the term for the Upper or Little Spokane tribe, adding, "Some think the term may originally have been the name of a locality in their country where these fish were abundant." Teit, "Salishan Tribes," 298. *Snx*^{w}*méne?* literally means "place of the steelhead," combining the lexical prefix *sn-* (indicating "place") with *x*^{w}*méne?,* the name for steelhead trout.

However, steelhead and other anadromous salmonids did not occur in western Montana, and neither did Dolly Varden (*Salvelinus malma*), the landlocked species often called both "lake trout" and salmon trout, and only recently distinguished from bull trout by scientists. (*Salvelinus malma* was initially the scientific term for both Dolly Varden and bull trout; later, when the two fish became distinguished as separate species, *Salvelinus malma* was reserved for Dolly Varden, while *Salvelinus confluentus* was applied to bull trout.) The only salmonids native to western Montana were bull trout, westslope cutthroat trout, mountain whitefish, and pygmy whitefish. And bull trout, in its fluvial and adfluvial forms, was by far the largest of any of the native fish in the area.

In 1891, the U.S. Fish Commission sent biologist Barton W. Evermann to investigate fisheries in western Montana; Evermann mentions at numerous points in his report "salmon trout or bull trout," elsewhere distinguishes "salmon trout" from "common trout" (obviously referring to westslope cutthroat trout), and finally, in the listing of fish at the end of report, identifies "*Salvelinus malma*" (the scientific term originally applied to both Dolly Varden and bull trout) as "the salmon trout or bull trout." Evermann, "Reconnaissance," 12, 13, 14, 18, 50-51. In 1894, Evermann and Charles H. Gilbert co-authored "A Report Upon Investigations in the Columbia River Basin with Descriptions of Four New Species of Fishes," in *Bulletin of the United States Fish Commission,* XIV (Washington, D.C.: U.S. Government Printing Office, 1894, 169-208); the report (p. 201) says that "in Montana, from Flathead Lake to Missoula," *Salvelinus malma* "is called 'salmon trout' or 'bull trout.'"

We can therefore feel exhaustively certain in assuming that bull trout (*Salvelinus confluentus*) is indeed the fish referred to by Mullan, and many other early travelers in western Montana, as "salmon trout."

49. Stevens, *Report of Explorations*, 519.

50. Teit, "Salishan Tribes," 311.

51. Carling Malouf, "Historical and Archaeological Sites and Objects," in Leo K. Cummins, *Impact Assessment: Forest Land of the Confederated Salish and Kootenai Tribes of the Flathead Reservation*, Montana (unpublished ms, April 1974).

52. Fishing may have been an even more important part of the Kootenai mode of subsistence. Pierre-Jean De Smet describes in considerable detail a "grand fish festival" among the Kootenai people held in August 1845, in which the tribe gathered in a large "rush mat" lodge, made "a fire fifty feet long" to heat stones, were led by the chief in prayers of thanks, boiled bowls of fish with the stones, and then ate in careful, prayerful silence. While any ethnographic information from De Smet should be regarded critically, this vivid anecdote certainly seems to provide additional evidence of the importance of fish to tribal people in the region. Pierre-Jean De Smet, S.J., *Oregon Missions and Travels over the Rocky Mountains in 1845-46* (Fairfield, WA: Ye Galleon Press, 1978; reprint of 1878 edition published by E. Dunigan, New York), 119-120.

53. Pete Beaverhead, SPCC tape 2, side 2 (1975).

54. The Salish and Pend d'Oreille did not seem to have as much defined group specialization with fishing or other parts of their subsistence strategy as did some neighboring tribes such as the Bannock and Nez Perce. See Hewes, "Fishing," in Walker, Jr. ed., *Vol. 12: Plateau*, 620-640.

55. Stevens, *Narrative and Final Report*, 211.

56. Interview of "Mose Chotoe [Chouteh or Čx̣awte] (Blind Mose)", 7 Nov. 1956, St. Ignatius, Montana, by Robert C. Carriker and Thomas Connally, S.J. In audio collections of American Indian Research Project, University of South Dakota, Vermillion, South Dakota. Reporting on the same area of the lower Clark Fork system in the mid-nineteenth century, Isaac Stevens echoed Mr. Chouteh's account, noting, "In summer the Indians live principally on fish, which they catch not only by wiers [sic] and fish-traps, but by the hook and line and by spearing." Stevens, *Report of Explorations,* 296.

57. Pete Beaverhead, SPCC tape 69, side 2 (1975). Mr. Beaverhead said that the Pend d'Oreille also harvested the fish during the spring spawning runs. SPCC tape 46, side 1 (1975).

58. Pete Beaverhead, SPCC tape 3, side 2 (1975).

Chapter 3: Fishing, Bull Trout, and the Confidence of Tribal People

59. Pete Beaverhead, SPCC tape 49, side 1 (1975) and tape 75, side 1 (1975).

60. "Mengarini's Narrative of the Rockies: Memoirs of Old Oregon, 1841-1850, and St. Mary's Mission," ed. Albert J. Partoll (*Sources of Northwest History*, No. 25. Missoula, MT: Montana State University, n.d. Originally published in *Frontier and Midland*, 1938), p. 5. Saxa was born in 1822 and died at age 97 in 1919.

61. Pierre-Jean De Smet, S.J., *Oregon Missions and Travels*, 291.

62. *Life, Letters and Travels of Father Pierre-Jean De Smet, S.J. 1801-1873*, ed. by Hiram Martin Chittenden and Alfred Talbot Richardson (New York: Francis P. Harper, 1905; repr. New York: Kraus Reprint Co., 1969), vol. III, pp. 992-994.

63. Rev. Samuel Parker, *Journal of an Exploring Tour Beyond the Rocky Mountains*, 5th ed. (Auburn: J.C. Derby & Co., 1846), 302-304.

64. De Smet, *Oregon Missions and Travels*, 115-116.

65. De Smet, *Oregon Missions and Travels*, 115-116. Interestingly, Isaac Stevens felt a similar need to tamp down his account of the extraordinary Kootenai fishery with almost nonsensical assertions that their apparently easy way of life was undesirable. After noting that "the waters of the Kootenaie river afford them, at all seasons, a bountiful supply of the salmon-trout," and that all the Kootenais had to do was simply "enjoy the blessings and favors fortune has placed at their disposal," Stevens declared that this was a "sluggish and miserable independence." Stevens felt it unnecessary to explain how this "independence" was "miserable." We can only assume that it was because the Kootenai way of life did not involve enough hard work. Isaac I. Stevens, *Report of Explorations*, 523.

66. De Smet's seemingly conflicted feelings about the tribal mode of subsistence is also reflected in his comments on the plant foods of the Salish and Pend d'Oreille, which he noted included "the thorny bush which bears a sweet, pleasant, blackberry; the rose-buds, mountain cherry, cormier or service berry, various sorts of gooseberries and currants of excellent flavor; raspberries, the hawthorn berry, the wappato, (sagitta-folia,) a very nourishing, bulbous root; the bitter root, whose appellation sufficiently denotes its peculiar quality, is however, very healthy; it grows in light, dry, sandy soil, as also the caious or biscuit root...the watery potatoe...the small onion; the sweet onion...strawberries are common and delicious... the camash root...is abundant, and, I may say, is the queen root of this clime...it is excellent, especially when boiled with meat; if kept dry, it can be preserved a long time." Yet the missionary emphasized that "To this catalogue I could add a number of detestable fruits and roots which serve as nutriment for the Indians, but at which a *civilized* stomach would revolt and nauseate." One of the staple plant foods for all tribes in the region is tree lichen or "moss," which grows in lodgepole pine forests and is baked in pits with camas and other foods. It is

regarded as a slightly sweet treat, a cherished food, by Salish, Pend d'Oreille, and Kootenai people. De Smet, however, viewed this as "a most miserable food" that "appears more suitable for mattresses, than for the sustenance of human life." So strong were De Smet's dietary prejudices that he assumed that Indian people only ate the baked lichen when "their hunger becomes so extreme, that they are reduced to subsist on moss." De Smet, *Oregon Missions and Travels*, 116-118.

67. See Timothy Weiskel, "The Terrain and Main Components of Debate," lecture for ENVR E-120: Environmental Ethics and Land Management, Harvard University Extension School, fall 2006. http://ecojustice.net/2006-ENVRE120/Slides/20061012-Session-4.pdf

68. Stevens, *Report of Explorations*, 311.

69. Stevens, *Narrative and Final Report*, 125.

70. Stevens, *Report of Explorations*, 311. Mullan said that the behavior of the Salish "contrast[ed] well with our Blackfeet friends, who had just left us, who made free with anything belonging to us, and who looked upon our table as their own." It might be worth investigating whether the different ecology and less diverse resources of Blackfeet territory contributed to a less secure attitude toward food.

71. *The Correspondence and Journals of Captain Nathaniel J. Wyeth, 1831-6*, Sources of the History of Oregon: v. 1, pts. 23-6 (Eugene, Ore.: University Press, 1899), 40. A more recent edition is *The Journals of Captain Nathaniel J. Wyeth's Expeditions to the Oregon Country, 1831-1836*, ed. Don Johnson (Fairfield, Washington: Ye Galleon Press, 1984).

72. Wyeth, p. 9.

73. De Smet, *Oregon Missions and Travels*, 218.

74. Stevens, *Report of Explorations*, 102.

75. Stevens, *Report of Explorations*, 262.

76. Stevens, *Narrative and Final Report*, 124.

77. Stevens, *Report of Explorations*, 526. Observed in May 1854.

78. Stevens, *Report of Explorations*, 523 and *Narrative and Final Report*, 179.

79. Stevens, *Report of Explorations*, 293.

80. Stevens, *Report of Explorations*, 296.

81. Stevens, *Report of Explorations*, 296. Suckley's statement may be one of the few examples where the importance of fish in the tribal mode of subsistence was somewhat overstated, but the importance of his remark here is that fish were available, and were harvested by Indian people in the region, at all times of year and by many different methods.

82. *Narrative and Final Report*, 205. It may be noted that David Thompson, traveling along the lower Clark Fork near Thompson Falls in early June, 1811, built a cedar canoe "on the banks of a small River [a tributary of the Clark Fork], where the Indians had a Weir for fish; on all the Streams that come from, or form [a] Lake, there are Weirs at which the Natives catch Mullets, gray Carp, and small Trout; the gray Carp is a tolerable good [fish], much like the red Carp of Canada; but all the Streams that have no Lake are without fish." *David Thompson's Narrative of His Explorations in Western America, 1784-1812*, ed. J.B. Tyrrell (Toronto: The Champlain Society, 1916), 460-461.

83. Stevens, *Report of Explorations*, 277. Observed in October, 1853. We have already seen Lieutenant Mullan's report on his encounter with Pend d'Oreille people at *Nčmqné* (the outlet of Flathead Lake) in April 1854, where he remarked on how "this lake, and also the Clark's fork here [i.e., the lower Flathead River], abounds in excellent fish, the salmon-trout being the most abundant. These latter are caught from the lake, often measuring three feet long. It forms one of the chief articles of food for the Pend d'Oreilles at this season." Stevens, *Report of Explorations*, 519.

84. Stevens, *Report of Explorations*, 520. For discussion of term "salmon trout," see FN 48.

85. Stevens, *Report of Explorations*, 520. Mullan was probably observing the streams now known as Big Lodge, Forrey, and Stoner Creeks.

Chapter 4: Bull Trout and Fishing in a Narrowing World

86. Elizabeth A. Fenn examines the complicated interconnected histories of horses and smallpox in *Pox Americana: The Great Smallpox Epidemic of 1775-1782* (New York: Hill and Wang, 2001). See especially p. 222. A detailed accounting of the history of introduced diseases in the region is provided by Robert T. Boyd in "Demographic History until 1990," in Walker, Jr., ed., *Handbook*, *Vol. 12: Plateau*, 467-483. Boyd wrote the best history of the impact of non-native diseases in the Pacific Northwest, *The Coming of the Spirit of Pestilence: Introduced Infectious Diseases and Population Decline among Northwest Coast Indians, 1774-1874* (Seattle and London: University of Washington Press, 1999), based on his Ph.D. dissertation, "The Introduction of Infectious Diseases among the Indians of the Pacific Northwest, 1774-1874" (University of Washington, Seattle, 1985). Sarah K. Campbell's archaeological work has found that burial patterns indicated sudden disruptions in life in the Middle Columbia Plateau in the mid-sixteenth century -- perhaps evidence of a smallpox pandemic beginning in 1519. See Campbell, "Post-Columbian Culture History in the Northern Columbia Plateau: A.D. 1500-1900" (doctoral dissertation, University of Washington, Seattle, 1989). Cole Harris, "Voices of Disaster: Smallpox around the Strait of Georgia in 1782," *Ethnohistory* 41 (4) (Fall 1994), 591-627, is also an important study of the impact of smallpox epidemics in the region prior to 1800. One of the earliest works to focus on the issue in this region was Leslie M. Scott, "Indian Diseases as Aids to Pacific Northwest Settlement," *Oregon Historical Quarterly* 29 (2) (1928), 144-161.

There are also numerous anecdotal records of smallpox and other epidemics striking Salish-Pend d'Oreille communities. Early observations of non-Indian explorers, fur trappers, traders, and missionaries include the Lewis and Clark journals; Claude E. Schaeffer, *LeBlanc and LeGasse: Predecessors of David Thompson in the Columbia Plateau*, Studies in Plains Anthropology 3 (Browning, Montana: Museum of the Plains Indian, Indian Arts and Crafts Board, U.S. Department of the Interior, 1966); *David Thompson's Journals Relating to Montana and Adjacent Regions, 1808-1812*, ed. and with an introduction by M. Catherine White (Missoula, Montana: Montana State University Press, 1950) and *David Thompson's Narrative of His Explorations in Western America, 1784-1812*, ed. J.B. Tyrrell (Toronto: The Champlain Society, 1916), especially chapter XXI, "Small Pox Among the Indians," which includes detailed accounts of the 1780 epidemic from Thompson's first-hand observations and through the account of a Piegan elder; Alexander Ross, *Adventures of the First Settlers on the Oregon or Columbia River*, ed. Milo Milton Quaife (Chicago: Lakeside Press, R.R. Donnelly & Sons, Inc., 1923); *Fur Trade and Empire: George Simpson's Journal*, ed. Frederick Merk (Cambridge, Mass.: The Belknap Press of Harvard University Press, 1968); Warren Ferris, *Life in the Rocky Mountains*, ed. Paul C. Phillips (Denver, CO: The Old West Publishing Company, 1940); Harry M. Majors, "John McClellan in the Montana Rockies 1807: The First Americans after Lewis and Clark," *Northwest Discovery* 2 (19), 554-630; Gregory Mengarini, *Recollections of the Flathead Mission, Containing Brief Observations both Ancient and Contemporary Concerning this Particular Nation*, translated, edited, & with a biographical introduction by Gloria T. Lothrop (Glendale, CA: Arthur H. Clark Co., 1977); and Stevens, *Reports of Explorations*. In addition, numerous tribal accounts appear in the SPCC oral history archives as well as the ethnographic notes of James Teit, Claude Schaeffer, and Edward

Curtis. These include a story of smallpox striking a Plains Kootenai band and leaving only a single survivor. Fenn offers a good accounting of biological explanations for the extraordinary mortality rates of native people afflicted by smallpox (hemorrhagic smallpox, she notes, killed 97 to 100% of its indigenous victims) in *Pox Americana*, 253. See also "The Genetics of Vulnerability" in Charles C. Mann, *1491: New Revelations of the Americas Before Columbus* (New York: Vintage Books, 2005), 112-118.

This mounting body of scholarship and documentation has made it clear that by the early nineteenth century, epidemics had already been wreaking havoc among the Salish and Pend d'Oreille for at least decades and perhaps even for centuries.

87. Boyd found that figures gathered by James Teit yield "a minimal aboriginal Plateau culture area estimate of 87,000. Considering the usual mortality on 'virgin soil,' the number may be much higher." In Walker, Jr., ed., *Handbook*, *Vol. 12: Plateau*, 472. James Teit estimated the pre-white population of the Salish and Pend d'Oreille at 15,000, basing his figure on rudimentary knowledge of the extent and impact of smallpox and other diseases before the arrival of Lewis and Clark. Teit, "Salishan Tribes," 314.

Fenn and Boyd are part of a growing number of researchers contributing toward more advanced methods of population and disease analysis with a rigorous reexamination of archival sources to develop revised population estimates of native populations. Where earlier scholars tended to rely almost solely on the shaky head counts of early white visitors to tribal territories, historical demographers like Boyd have employed a far wider range of evidence, including analysis of shifting land use patterns as reflected in fire histories, records relating to the spread of horses and inter-tribal territories, and perhaps most importantly, tribal oral histories. Virtually all contemporary scholars have revised upward, in some cases dramatically, the first estimates of pre-Columbian native populations developed by anthropologists such as James Mooney, who wrote the influential *The Aboriginal Population of America North of Mexico*, ed. by J.S. Swanton (Washington, D.C.: Smithsonian Miscellaneous Collections LXXX, no. 7, 1928). However, there remain wide disparities in the scholarship. Some of the highest population estimates came from Henry Dobyns' seminal work in the field, *Their Numbers Become Thinned: Native American Population Dynamics in Eastern North America* (Knoxville: University of Tennessee Press, 1983). Dobyns wrote that native populations throughout the Americas were radically reduced by the spread of smallpox in the sixteenth century after its introduction into Mexico by the Spanish conquistadors. Since Dobyns, most historians and anthropologists have arrived at lower figures, but still much higher than the early estimates of Mooney et. al. Other researchers have been less committal in estimating population numbers, but have at the same time argued for far-reaching impacts from these epidemics and extensive re-evaluation of early Native American history (e.g., Daniel T. Reff, *Disease, Depopulation, and Culture Change in Northwestern New Spain,* 1518-1764 (Salt Lake City: University of Utah Press, 1991)). For a popular overview of the scholarly research and disagreements over this issue, see Mann, *1491*, particularly "Part One: Numbers from Nowhere?"

Our own estimates of combined Salish-Pend d'Oreille population -- a range of between 20,000 and 60,000 before the diseases struck, and between 2,000 and 8,000 by about 1800 -- are developed from a review of all these materials, and surveys of the resource base that sustained the tribes. These population estimates encompass bands and groups throughout

the vast pre-1700 original aboriginal territories of both tribes, ranging from the Musselshell country to the east to the Pend Oreille River in the west. We would emphasize that these are only informed estimates, and that more work needs to be done in this important area of research.

88. The change in tribal territories, and its causation, is documented in many sources, tribal and non-Indian. One of the earliest of the latter chroniclers, David Thompson described the high plains of Montana and southwestern Alberta, and remarked that "All these Plains, which are now the hunting grounds of the above Indians [Piegan, Blood, and Blackfeet], were formerly in full possession of the Kootanaes, northward; the next the Saleesh and their allies, and the most southern, the Snake Indians and their tribes." *David Thompson's Narrative*, 327-328. See also Teit, "Salishan Tribes."

89. In April 1810, Thompson noted, "The Saleesh Indians during the winter [of 1809-1810] had traded upwards of twenty guns from me, with several hundreds of iron arrow heads, with which they thought themselves a fair match for the Peegan Indians in battle on the Plains." Thompson went on to describe an armed conflict in July 1810 somewhere on Montana's Rocky Mountain Front, in which 150 Salish (or Pend d'Oreille -- it is difficult to tell from Thompson's text) warriors directly engaged, and bested, a somewhat larger Blackfeet force. "This was the first time the Peegans were in a manner defeated," wrote Thompson, "and they determined to wreck [wreak] their vengeance on the white men who crossed the mountains to the west side; and furnished arms and ammunition to their Enemies." *David Thompson's Narrative*, 423-425.

90. See William E. Farr, "Going to Buffalo: Indian Hunting Migrations across the Rocky Mountains," "Part 1: Making Meat and Taking Robes," *Montana: The Magazine of Western History*, vol. 53, no. 4 (winter 2003), and "Part 2, Civilian Permits, Army Escorts," *Montana: The Magazine of Western History*, vol. 54, no. 1 (spring 2004), 26-44. Farr also chronicles the fascinating period in which the U.S. Army traveled with and protected western tribes on their bison hunts -- a right guaranteed to them under the terms of the October 1855 Judith River treaty. Farr does not quite acknowledge that the plains bison hunting areas were older Salish-Pend d'Oreille territories, but this is overwhelmingly indicated by both ethnographic sources (Teit, Schaeffer, Malouf, Curtis) and tribal oral histories.

91. As Alexander Ross of Hudson's Bay wrote, "men accustomed to an indolent and roving life [will not] submit to the drudgery of killing beavers. They spurned the idea of crawling about in search of furs...They were, moreover, insolent and independent." Ross, *Adventures of the First Settlers*, 235-236. George Simpson, the Governor of Hudson's Bay's Northern Department, noted in 1824 that "the Indians cannot be prevailed upon to exert themselves in hunting." *Fur Trade and Empire*, 54.

92. See Thompson Smith, "The Ecology of a Massacre: Indian-White Relations on the Columbia Plateau, 1805-1847" (senior essay, American Studies Program, Yale University, 1983), and Jennifer Ott, "'Ruining' the Rivers in the Snake Country: the Hudson's Bay Company's Fur Desert Policy," *Oregon Historical Quarterly*, vol. 104, no. 2 (2003).

93. During this period Hudson's Bay removed over 35,000 beaver pelts from what they called "the Snake River country," with some 18,000 -- over half -- harvested under Ogden's command. See Ott, "'Ruining' the Rivers."

94. On the one hand, beaver dams may present barriers to spawning bull trout, and the construction of dams may increase sediment loads, at least temporarily, thereby increasing the mortality of incubating eggs. Ken Huston, an early resident of the Swan Valley, recalled how people in the early to mid-twentieth century would regularly remove beaver dams from places they knew were used by bull trout for spawning (interview by Suzanne Vernon, September 9, 1999, transcript at Swan Ecosystem Center). But on the other hand, the destruction of beaver dams also would increase sediment loads. And beaver ponds provided habitat for some bull trout populations for both wintering and for the development of young fish. (Mr. Huston also asserted that westslope cutthroat wintered in beaver ponds in the Swan Valley: "All the cutthroat wouldn't migrate back to the Flathead Lake. They'd come up these little creeks and get above beaver dams. And they would stay there year 'round. So we had good fishing in Swan River twelve months a year.") It must be considered, of course, that bull trout and beaver co-evolved in the Northern Rockies, and before the disturbances of the last two centuries, both were abundant -- particularly bull trout. Further research is warranted into the possibility that the Northern Rockies were less abundant in beaver than areas farther to the north, which might have been a factor in Hudson's Bay assessing their "fur desert" policy, under which they eliminated almost all beaver in the region in less than a decade, as both practically feasible and economically sensible. See D.M. Fairless, S.J. Herman, and P.J. Rhem, "Characteristics of bull trout (*Salvelinus confluentus*) spawning sites in five tributaries of the Upper Clearwater River, Alberta" (Rocky Mountain House, AB: Fish and Wildlife Services, Alberta Environmental Protection, 1994); D. Cross and L. Everest, "Fish habitat attributes of reference and managed watersheds, with special reference to the location of bull trout (*Salvelinus confluentus*) spawning sites in the upper Spokane River ecosystem, northern Idaho," in *Friends of the Bull Trout Conference Proceedings,* ed. W.C. Mackay, M.K. Brewin, and M. Monita, 381-386 (Calgary, AB: Bull Trout Task Force (Alberta), c/o Trout Unlimited Canada, 1997); R.A. Cunjak and G. Power, "Winter habitat utilization by stream resident brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*)," *Canadian Journal of Fisheries Aquatic Sciences* 43(10) (1986), 1970-1981; and R.A. Cunjak and R.G. Randall, "In-stream movements of young Atlantic salmon (*Salmo salar Linnaeus*) during winter and early spring," in *Production of Juvenile Atlantic Salmon, Salmo salar, in Natural Waters*, ed. R.J. Gibson and R.E. Cutting, Canadian Special Publications in Fisheries and Aquatic Sciences 118 (1993), 43–51. Thanks to David Rockwell for these references and the overview of the relationship between beaver and bull trout.

95. *Fur Trade and Empire*, 108.

96. See Robert Bigart and Clarence Woodcock, eds., *In the Name of the Salish & Kootenai Nation: the 1855 Hell Gate Treaty and the Origin of the Flathead Indian Reservation* (Pablo, MT: Salish Kootenai College Press, 1996).

97. Bigart and Woodcock, eds. 142.

98. Stevens, *Report of Explorations*, 314.

99. Stevens, *Report of Explorations*, 520-521. The area remained devoid of game a half century later, as recorded by Morton J. Elrod in *A Biological Reconnoissance in the Vicinity of Flathead Lake*, University of Montana Bulletin No. 10, Biological Series No. 3 (Missoula: University of Montana, 1902), 152: "In former years an occasional moose is said to have reached this region, though none are now seen...Elk and black-tailed or mule deer were also formerly taken in this region. The former are no longer seen, and the latter only occasionally."

100. Stevens, *Report of Explorations*, 519. For discussion of term "salmon trout," see FN 48.

101. United States Department of the Interior, Office of Indian Affairs, *Annual Report of the Commissioner of Indian Affairs to the Secretary of the Interior, 1870* (Washington, D.C.: U.S. Government Printing Office, 1870), 196.

102. Ford is evidently referring to fluvial or adfluvial forms of bull trout in the Jocko. It is likely that those varieties, because of their larger size, were more desirable as a subsistence base for winter camps.

103. Ronan to Hauser, 5 Sept. 1883, Montana Historical Society, Samuel T. Hauser Papers, Manuscript Collection 37 (hereinafter MHS MC 37), Box 8, file 40.

104. Ronan to Hauser, 8 Oct. 1883, MHS MC 37, Box 8, file 40.

105. Ronan to Hauser, 18 Aug. 1884, MHS MC 37, Box 10, file 25.

106. National Archives, Washington, D.C., Record Group 75 (Bureau of Indian Affairs), Letters Received 1881-1907 (hereinafter NA BIA LR), document number 1887-5794.

107. Barton W. Evermann, "A Reconnaissance of the Streams and Lakes of Western Montana and Northwestern Wyoming" (in *Bulletin of the U.S. Fish Commission*, v. XI, "Fish-Cultural Investigations in Montana and Wyoming," 1892, 3-60), 6, 11-12.

108. Kalispell *Inter Lake*, 3 Jan. 1890, 27 May 1898, 3 Nov. 1899, 17 Apr. 1903, and 14 Apr. 1905. Excerpts from the Inter Lake, 1896-1906, were compiled as part of research for USFWS Clark Fork Recovery.

109. USFWS Clark Fork Recovery, 14, notes, "Lightning Creek is approximately 35 kilometers (22 miles) long and drains into the Clark Fork River 4 kilometers (2.5 miles) upstream of Lake Pend Oreille...Bull trout spawn in the upper mainstem of Lightning Creek below Quartz Creek, as well as in most major tributaries."

110. Pete Beaverhead, SPCC tape 8, side 2 (1975).

111. Agnes Vanderburg, SPCC tape 1, side 2 (1975).

112. Pete Beaverhead, SPCC tape 2, side 2; tape 12, side 1; and tape 36, side 1 (all 1975).

113. Pete Beaverhead, SPCC tape 69, side 2 (1975).

114. Pete Beaverhead, SPCC tape 46, side 2 (1975).

114b. Elrod, *A Biological Reconnoissance* [sic], 124, 111-112, 158, 162, and 138-139.

115. See *The Swan Massacre: A Story of the Pend d'Oreille People*, by the Salish-Pend d'Oreille Culture Committee and Elders Advisory Council, Confederated Salish and Kootenai Tribes (Lincoln: University of Nebraska Press, forthcoming 2012), and Dave Walter, "The Swan Valley Tragedy of 1908," in *Montana Campfire Tales: Fourteen Historical Narratives* (Helena: TwoDot Press, 1997), 125-140.

116. As Peter Ronan noted in 1889, "Each year finds the followers of the chase from this reservation decreasing." Ronan to Commissioner of Indian Affairs, 20 Nov. 1889, NA BIA LR, 1889-33895.

117. Ken Huston, interviewed by Suzanne Vernon, September 9, 1999. Ed Beck, interviewed by Gary MacLean and Cal Tassinari, Flathead National Forest, March 31, 1981. Transcripts from Swan Ecosystem Center, Condon, MT.

118. Ronan to Commissioner of Indian Affairs, 14 Oct. 1885, NA BIA LR, 1885-24767.

119. Ronan to Commissioner of Indian Affairs, 20 Nov. 1889, NA BIA LR, 1889-33895.

120. NA BIA LR, 1894-2446.

121. Sam Resurrection to Secretary of the Interior, 14 Nov. 1914, National Archives, Washington, D.C., Record Group 75 (Bureau of Indian Affairs), Central Classified Files (hereinafter NA BIA CCF), 62010-1914 Flathead-056. Resurrection also repeatedly raised the failure of authorities to prosecute anyone for the killing of tribal hunters in 1889 at Sun River and in the 1908 Swan Massacre. In this letter he states, "Thirty four years ago there was two women and two men killed by you white people for hunting and five years ago there were four Indians killed for hunting. We three tribes feel sorry for these four men killed."

122. NA BIA CCF, 62010-1914 Flathead-056.

123. Ibid.

Chapter 5: The Decimation of Bull Trout

124. Isaac F. Marcosson, *Anaconda* (New York: Dodd, Mead & Co., 1957), 27. For an extraordinary record of tribal opposition to the railroad -- and presience about its impacts upon the tribes and the reservation -- see Council Minutes, Negotiations for a Right-of-Way through the Flathead Indian Reservation for the Northern Pacific Railroad, August 30 - September 2, 1882, National Archives, Washington, D.C., Record Group 75 (Bureau Of Indian Affairs), Letters Received, 1881-1907, Special Case 55: Northern Pacific Railroad and Flathead Indian Reservation.

125. William G. Robbins has argued that understanding "the dynamics of change" in the American West requires "inquiries into political economy and systems of power and dependency...and with the all-embracing influence of capital as an agent of change. Those dynamics are part of the revolutionary world that is modern capitalism...The cluster of suppositions and motives to human action associated with capitalism provides the most coherent, the most useful, and the most productive strategy and framework for discussing change in the modern world." *Colony and Empire: The Capitalist Transformation of the American West* (Lawrence: University Press of Kansas, 1994), ix-x.

For a fine history of the bison, see Andrew C. Isenberg, *The Destruction of the Bison: An Environmental History, 1750-1920* (New York: Cambridge University Press, 2000). See also footnote 18.

126. Anaconda's smelters also created severe air pollution problems and precipitated bitter conflicts between the company and the farmers and ranchers of the Deer Lodge Valley, which played out in a fascinating series of legal battles. See Fred Quivik, "Smoke and Tailings: An Environmental History of Copper Smelting Technologies in Montana, 1880-1930" (Ph.D. Dissertation, University of Pennsylvania, 1998), and Donald MacMillan, *Smoke Wars: Anaconda Copper, Montana Air Pollution, and the Courts, 1890-1920* (Helena: Montana Historical Society Press, 2000).

127. Evermann, "Reconnaissance," 15.

128. Evermann, "Reconnaissance," 16 and 18. In the upper Clark Fork, Evermann also noted contamination of the Little Blackfoot River, which enters the Clark Fork at Garrison, at the north (downstream) end of the Deer Lodge valley. "Above Elliston the water is clear and pure, but below that place the stream is muddied by mining operations carried on along its banks." Ibid, 35-36.

129. Marcosson, 54-55.

130. Ibid., 55 and 152. Marcosson says that Anaconda owned 386,137 acres of timberlands. A vastly superior historian, K. Ross Toole, says that "by 1910, the Anaconda Company alone owned 1,166,000 acres of timberland." *Twentieth-Century Montana: A State of Extremes* (Norman: University of Oklahoma Press, 1972), 5.

131. USFWS Clark Fork Recovery, 43, notes, "Many drainages in the Blackfoot River watershed have been extensively logged and have suffered damage from sedimentation. Silvicultural impairment to water quality has been noted in Belmont, Bear, Chamberlain, Deer, Dunham, Keno, Marcum, McElwain, and Richmond Creeks and in the North Fork Blackfoot and West Fork Clearwater Rivers."

132. USFWS Clark Fork Recovery, 42 and 43.

133. Evermann, "Reconnaissance," 13 and 14.

134. Marcosson, 152-153. Marcosson's book was published in 1957, but he affixes no date to the 100,000,000 figure. The WPA Guide to Montana, first published in 1939, stated that the mill's annual capacity was significantly higher -- 150,000,000 board feet. Federal Writers' Project of the Works Progress Administration for the State of Montana, *Montana: A State Guide Book* (New York: Hastings House, 4th printing, 1955; copyright 1939 Department of Agriculture, Labor and Industry, State of Montana), 86.

135. Evermann, "Reconnaissance," 14. Quoted (with erroneous citation) in USFWS Clark Fork Recovery, 42.

136. David Strohmaier of Historical Research Associates, Inc. in Missoula, MT has written an excellent and detailed account of the history of the Bonner Dam, in "Cultural Resources Report for Bonner Dam Removal Project," submitted to U.S. Fish and Wildlife Service (Missoula, MT: Historical Research Associates, Inc., January 2005), 5-21. Hammond, Eddy, Bonner, and Daly established the mill under the aegis of their newly formed Montana Improvement Company, which held a contract with the Northern Pacific Railroad to supply all of the lumber needs for the railroad's 925 miles between Walla Walla, WA and Miles City, MT. The dam by the mill was finished in November 1884, but was washed out in a spring flood the following June. It was rebuilt by the time the mill was fully operational in July 1886. The dam was initially built to corral the logs that were floated down the Blackfoot, but by 1891, it was also producing electric power. Most sources currently say that the first hydroelectric dam in Montana was the Black Eagle Dam in Great Falls, which was begun in 1889 and completed in 1890. The Bonner dam -- obviously much smaller -- may well have been operating before Black Eagle. Strohmaier quotes a report by Fred Quivik as saying, "Shortly after the Bonner mill went into operation, a generating plant was built there on the Blackfoot River. It originally served only the mill, generating electricity by means of both a steam-powered generator and a water-powered turbine. The power plant also delivered mechanical power directly to the mill by means of a rope drive." Strohmaier says that "at least one photo taken around 1890 or 1891 clearly shows the completed facility." Regardless of the exact date, it is fair to say that the Bonner dam stood at the leading edge of industrial technology for its time, since the very first use of hydropower in the United States dates from the 1880-82 period. See Fredric L. Quivik, "*Milltown Dam: A Determination of Eligibility for the National Register of Historic Places*," report for Montana Power Company (Butte, MT: Renewable Technologies, Inc., 1984). Information also from Fred Quivik, emails to author, 9 Mar. 2009; David A. Schmettering,

Montana Fish, Wildlife and Parks, email to author, 2 Mar. 2009. Peter Nielsen, Missoula City-County Health Department, email to author, 3 Mar. 2009. Mr. Nielsen wrote an excellent summary overview of the Bonner dam, "Bonner Dam Removal Project" (17 Oct. 2005: in possession of author).

See also three articles by Perry Backus in the *Missoulian*: "Let the Water Flow: Little-known Stimson Dam to Come Down as Part of Milltown Dam Removal," 6 Oct. 2005; "Removal of Bonner Dam complete," 22 Nov. 2005; and "Blackfoot River use has evolved through several generations," 27 Nov. 2005.

137. Quotation from Bitterroot Valley Historical Society, *Bitterroot Trails*, Volume 1 (Darby, MT: Bitter Root Valley Historical Society, 1982), 276.

"Giant powder" was a term for what is now more commonly called dynamite -- according to www.answers.com, "a blasting powder made of nitroglycerin, sodium nitrate, sulfur, and rosin, sometimes with kieselguhr." According to the California Office of Historic Preservation (http://ohp.parks.ca.gov/default.asp?page_id=21482), the first commercial manufacturing of dynamite in the U.S. began in 1868 when the Giant Powder Company secured an exclusive license from Alfred Nobel to produce his new explosive in America and built a factory in what is now Glen Canyon Park near San Francisco. The following year the entire facility was leveled by an explosion.

The excellent website "MeasuringWorth" (http://www.measuringworth.com/uscompare/) estimates that $5.50 in 1890 would be the equivalent of over $129 in 2007, using the Consumer Price Index. Commercial fishing in the Bitterroot was even more lucrative when we compare unskilled labor rates from the two eras; by that measure, $5.50 in 1890 would be the equivalent of over $651 in 2007.

138. *Bitterroot Trails*, 276.

139. U.S. Indian Agent Joseph Carter, Annual Report 1895, 189, quoted in Ronald Lloyd Trosper, "The Economic Impact of the Allotment Policy on the Flathead Indian Reservation" (Ph.D. dissertation, Harvard University, 1974), 177. Carter said virtually the same thing in his Annual Report of 1894.

140. Agnes Vanderburg quotation from SKC Falling Waters project, 1989, and quoted in Thompson Smith, "A Brief History of Kerr Dam and the Flathead Reservation," in *čłq̓étk^{w} ntx̣^{w}étk^{w}s /'a·kinmituk -- The Lower Flathead River, Flathead Indian Reservation, Montana: A Cultural, Historical, and Scientific Resource* (Pablo, Montana: Salish Kootenai College Tribal History Project, 2008), 26.

141. SKC Falling Waters project, 1989, and quoted in Thompson Smith, "A Brief History," 21.

142. See Johnny Arlee, *Over a Century of Moving to the Drum: Salish Indian Celebrations on the Flathead Reservation* (Pablo, MT: Salish Kootenai College Press, 1998).

143. Treaty of Hellgate, 16 Jul. 1855, ratified 8 Mar. 1859, 12 Stat. 975. Article 6 of the treaty reads: "The President may from time to time, at his discretion, cause the whole, or such portion of such reservation as he may think proper to be surveyed into lots, and assign the same to such individuals or families of the said confederated tribes as are willing to avail themselves of the privilege, and will locate on the same as a permanent home, on the same terms, and subject to the same regulations as are provided in the sixth article of the treaty with Omahas, so far as the same may be applicable." It is unclear how much of Article 6 was understood by tribal leaders, considering the severe translation problems during the treaty negotiations (see p. 26 of this essay). In addition, the whole concept of land ownership and land parcels was profoundly alien and unfamiliar to tribal people. In any case, the treaty language clearly stipulates that allotted lands would be provided to "such individuals or families of the said confederated tribes as are willing to avail themselves of the privilege" -- obviously a requirement of consent, and a conceptualization of allotment not as an imposition upon the tribes, but as an opportunity proffered to individual tribal members. Nevertheless, in 1904, Montana Rep. Joseph Dixon ignored the overwhelming opposition of tribal members and pushed the Flathead Allotment Act through Congress. See Burton M. Smith, "The Politics of Allotment on the Flathead Indian Reservation," *Pacific Northwest Quarterly*, vol. 70, no. 3 (July 1979), 131-140.

144. 437 F.2d 458, 193 Ct. Cl. 801. Confederated Salish and Kootenai Tribes of the Flathead Indian Reservation, Montana v. The United States, no. 50233, Jan. 22, 1971. As Amended April 23, 1971, pp. 9 & 10.

145. Special thanks to Clayton Matt and the Natural Resource Department, Confederated Salish and Kootenai Tribes, for the exceptional, painstaking research that produced these figures on post-allotment land transfer within the Flathead Reservation.

146. Much of this history is detailed in the three-part video documentary *The Place of the Falling Waters*, by Roy Bigcrane and Thompson Smith (Pablo and Bozeman, MT: Salish Kootenai College Media Center and Native Voices Public Television Workshop, 1991), and in Thompson Smith, "A Brief History."

147. Trosper, "Economic Impact," 188.

148. Michael P. Malone, Richard B. Roeder, and William L. Lang, *Montana: A History of Two Centuries* (Seattle and London: University of Washington Press, rev. ed. 1991), 238.

149. Malone, Roeder, and Lang, Chapter 10: The Homestead Boom, 1900-1918, 218-253. The quote is from the late Dave Walter's history quiz page on the Montana Historical Society website: http://montanahistoricalsociety.org/education/questionsexam.asp

On the Flathead Reservation, one of the biggest promoters of white settlement was William Smead, who after supporting passage of the Flathead Allotment Act as agent -- and then being dismissed from his post -- founded the Flathead Land and Information Agency in Missoula, where he used the inside information he had gained as agent to help settlers gain title to prime tracts on the reservation. Smead, in fact, was the author of one of the most famous tracts

for prospective settlers in western Montana, *Land of the Flatheads: a Sketch of the Flathead Reservation, Montana: Its Past and Present and Possibilities for the Future* (St. Paul, MN: Pioneer Press, 1905).

The Flathead was targeted by this kind of propaganda long before the reservation was even made available to non-Indian settlers. In 1894, for example, Portland's Oregonian newspaper published *The Oregonian's Handbook of the Pacific Northwest* (Portland: The Oregonian Publishing Co., 1894), which noted, "There is still a large area of vacant government land in the valley and when the government throws open the great Flathead Indian reservation thousands of acres additional, the finest land in the state, will be ready for occupancy. This reservation comprises an area of over 2,000,000 square miles." 533. In the Oregonian's fervid enthusiasm, not only was the opening of the reservation anticipated fully sixteen years ahead of time, but also the size of 1.2 million acre reservation was nearly doubled.

150. Supt. Theodore Sharp to Commissioner of Indian Affairs, 21 Jul. 1919, National Archives Rocky Mountain Regional Branch, Denver, CO, Flathead Agency records (herineafter NARA-Denver Flathead), Subject Files, box 235, file: "Flathead Delegations to Wash. D.C., 1910-1920."

151. NARA-Denver Flathead, box 260 (1920-1955), Decimal Files 060-069, File 068 -- Adoptions. This record is one of the better examples of the disastrous state of BIA record organization; if tribal researchers had not been interested in examining a file on "adoptions," this rare document of tribal dissent regarding the Flathead Indian Irrigation Project and the importance of the native fishery would never have been found.

Even with well-filed records, however, it can be surprising where one will discover documents relating to the tribal valuation of fish. In files relating to the National Bison Range, for example, Supt. Coe refers to tribal members who refused to sell their allotments to the range primarily because "the Jocko River would be closed to fishing in the event these lands were acquired by the Geological Survey. The Jocko River is one of the best trout streams in western Montana and the lands desired by your Department covers [sic] one of the best stretches of river. The fishing means a great deal to the Indians, not only to the owners of the lands involved, but to many others who fish there." NARA-Denver Flathead, box 283 (1908-1953), Decimal Files 307-310, File 307.1 -- Parks, Bison Ranges, Game Preserves.

152. For background, see Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York: Pantheon Books, 1985), and Mark Fiege, *Irrigated Eden: the Making of an Agricultural Landscape in the American West* (Seattle and London: University of Washington Press, 1999).

153. For an elegiac photographic history of the Columbia River and its transformation by dams, see William D. Layman, *Native River: The Columbia Remembered* (Pullman: Washington State University Press, 2002).

154. Thompson Smith, "Annotated List of Dams in the Columbia River Drainage System" (unpublished manuscript, Salish-Pend d'Oreille Culture Committee, 2007).

155. The Northern Idaho & Montana Power Company took over the Bigfork dam in 1909 and built a diversion dam that carried water from the Swan River in a flume to a penstock 105' above the turbine. Some old timers, however, recall that logs were floated down the Swan River, into Flathead Lake, and over to the Somers mill in the 1910s -- perhaps suggesting that the dam was destroyed sometime after its initial construction and then rebuilt, rather than simply raised in height, in the 1920s. Author interview with Butch Harmon, May 22, 2009. A fish ladder was added in the 1930s, and modified in the 1960s, but biologists have characterized it as "marginal."

See Fraley & Shepard, 135, and Raymond J. Zubik, John Fraley, and Fred Holm, "Determination of Fishery Losses in the Flathead System Resulting from the Construction of Hungry Horse Dam," Bonneville Power Administration, Division of Fish and Wildlife, U. S. Department of Energy (Project No. 1985-23, BPA Report DOE/BP-23638-1), January 1986, 24 and 26. See also http://www.yourmuseum.org/lb_book/bookCh3.htm

The Bigfork Dam presents a biological puzzle that scientists and researchers are still trying to sort out. The outlet of Swan Lake is just a few miles up the Swan River from Flathead Lake, and biologists suspect that bull trout may have been disinclined to push upstream into relatively warm outflows of lake water, as opposed to the colder water issuing from spawning streams. If the biologists' theory is correct, bull trout would migrate upstream *from* a lake, but not upstream *to* a lake. Thus, there would be relatively few fluvial or adfluvial bull trout moving upstream at three key places in the Flathead-Clark Fork system: through the Swan River rapids and into Swan Lake; through the staircase falls of the Flathead River and into Flathead Lake prior to the construction of Kerr Dam; and through Albeni Falls in the Pend Oreille River and into Lake Pend Oreille.

US Fish and Wildlife Service biologists acknowledge that "to date, only casual observation and genetic information support this hypothesis." They discuss the issue candidly in the bull trout recovery plan for the Clark Fork: "Bigfork Dam blocked the Swan River drainage from Flathead Lake, but the ramifications of this loss to either system are not well understood. Anecdotal evidence from newspaper accounts around 1900 indicates that the mouth of the Swan River (or Big Fork as it was called then) was a very popular fishing spot in the spring (April to May), with apparent concentrations of bull trout and westslope cutthroat, and again in the fall (November), for mountain whitefish (*Inter Lake*, *in litt.*, 1900). It is not clear whether those fish migrated up the Swan River, were simply drawn there because of proximity to the mouth of the Flathead River, or were drawn there for foraging opportunities or other reasons." USFWS Clark Fork Recovery, 17-18 and 37-38.

It will be interesting to see what further research turns up, for there are tantalizing indications that something else may be going on. In the USFWS's research in the Kalispell Daily *Inter Lake* for anecdotal observations of fish, there are reports of great numbers of bull trout before the Bigfork Dam was built in 1902 -- but not after. We may also recall that Joe Eneas described the area just below the falls of the Flathead River as a good fishing spot for bull trout -- before the construction of Kerr Dam. More research may reveal that this is incorrect, or that the decline of bull trout at these places occurred for reasons other than the elimination or reduction of migratory populations. However, it may also be that fluvial and adfluvial forms of bull trout are already so decimated, and the fish's historic range already so fragmented by dams, that it would be difficult to answer this question.

The reference to Montana's fish and game laws draws from a pamphlet generously provided to us by Mike Korn, Assistant Chief of Enforcement for Montana Fish, Wildlife and Parks: W.F. Scott, State Game and Fish Warden, *The Complete and Official 1907-08 Game and Fish Laws of the State of Montana* (Helena: Independent Publishing Company, 1907). On page 9, Section 15 of the pamphlet quotes Montana H.B. 123, S.L. 1897, p. 252: "There shall be constructed at all dams now existing or any of the streams of the state, a fish way or ladder…" The law goes on to specify the minimal dimensions and slope of fish ladder, and other specifications, and then proscribes, to "any persons or corporations who shall violate any of the provisions," a penalty of from $50 to $200, or imprisonment in the county jail for 30 to 90 days, or both.

156. USFWS Clark Fork Recovery, 31-32. See also the website for the Mountain Water Company, http://mtnwater.com/history.htm; and Darryl Gadbow, "Access," *Missoulian*, 24 May 2002, and Joe Nickell, "Ladder into the Wild," *Missoulian*, 21 May 2007.

157. Evermann, "Reconnaissance," 13.

158. Evermann appealed for government action on the problem of mining waste, saying "It is greatly to be regretted that something can not be done to prevent such destruction of these fishing streams." Evermann, "Reconnaissance," 15-16 and 19. See also Sherry Devlin, "History's Troubles," *Missoulian*, 27 Jan. 2002.

159. See USFWS Clark Fork Recovery, 30.

160. See USFWS Clark Fork Recovery, 32-33 and Smith, "Annotated List." Prior to the dam's construction, Thompson Falls was not an impediment to fish passage. According to the reports of early biologists, there were merely "some small rapids which are no more serious than are those in the Flathead River" below Polson. Charles H. Gilbert and Barton W. Evermann, "A Report Upon Investigations in the Columbia River Basin with Descriptions of Four New Species of Fishes," *Bulletin of the United States Fish Commission,* XIV (Washington, D.C.: U.S. Government Printing Office, 1894, 169-208), 180.

161. Joe Eneas, SKC Falling Waters project, J. Eneas tape #3 (1988).

162. Charlie McDonald, SPCC wi, 22 Jul. 1992.

163. Toole, *Twentieth-Century Montana*, 104.

164. See Thompson Smith, "A Brief History," passim.

165. Joe Eneas, SKC Falling Waters project, tape 1011, 14 Jun. 1989.

166. Gilbert and Evermann, 180. Quoted in USFWS Clark Fork Recovery, 38. In April 1854, John Mullan similarly described this section of the river as "a series of rapids and falls," but he noted that during the flood-stage waters of "this [spring] season, [one drop] was fifteen feet high." Mullan also remarked on the "salmon trout" caught there and how it was one of

"the principal articles of subsistence to the Indians of the country." Stevens, *Narrative and Final Report*, 178.

167. Smith, "A Brief History," 28.

167b. See Alec Lefthand's remarks in *The Place of the Falling Waters*, Part II: The Road to the Dam.

168. USFWS Clark Fork Recovery, 38 and Smith, "Annotated List," 59.

169. USFWS Clark Fork Recovery, 35. For the question of whether bull trout would migrate upstream *into* lakes (as opposed to *out of* lakes), see discussion of Bigfork Dam in FN 148.

170. USFWS Clark Fork Recovery, 18-19 and 39-40 and Smith, "Annotated List," 61. See also Zubik, Fraley, and Holm, ii, 15, 19, and 22. While the USFWS says "little quantitative information exists about historical bull trout distribution and abundance in the South Fork Flathead River drainage" (p. 18), the Zubik, Fraley, and Holm report estimates that "potential habitat for about 2,100 adult bull trout" was blocked by the dam's construction. I have used the less conclusive statement of the USFWS report on the assumption that, as a report issued sixteen years later, it represents more recent analysis of wildlife biologists. See also Fraley and Shepard, 135. For a summary of the Hungry Horse facility, see http://www.usbr.gov/projects/Powerplant.jsp?fac_Name=Hungry+Horse+Powerplant.

171. Smith, "Annotated List," 61.

172. USFWS Clark Fork Recovery, 32-35.

173. Lukas P. Neraas and Paul Spruell, "Fragmentation of riverine systems: the genetic effects of dams on bull trout (Salvelinus confluentus) in the Clark Fork River system," *Molecular Ecology*, Vol. 10, issue 5 (May 2001), 1153-1164.

The fish below the Cabinet Gorge Dam may also be harmed by the dam's introduction of excessive gas levels in the water column; during high water, the dam may allow over 100,000 cubic feet per second to spill over the dam, entraining atmospheric gases in the water column "all the way down the Clark Fork River and across the northern end of Lake Pend Oreille" -- a potentially fatal situation for fish. USFWS Clark Fork Recovery, 34-35. In addition, the downstream environment is likely harmed by the operation of Cabinet Gorge as a "peak-loading" facility -- as Kerr Dam was operated until recently, when it was converted to a "base-load" supplier of electricity at the insistence of the Confederated Salish and Kootenai Tribes. Where peak-load dams are often required to open or shut gates very rapidly -- resulting in dramatic changes in downstream water levels -- base-load facilities operate in a much steadier way. This change has allowed Kerr Dam to be managed in a way that more closely replicates the natural fluctuations in water levels in the Flathead River that would occur over the course of the seasons.

174. Smith, "Annotated List," 62.

175. Gilbert and Evermann, 180; quoted in USFWS Clark Fork Recovery, 35. See also the Army Corps of Engineers Albeni Falls website: http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=albeni&pagename=History

176. USFWS Clark Fork Recovery, 35-37.

177. Smith, "Annotated List," 62.

178. USFWS Clark Fork Recovery, 33.

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179. Mose Chouteh, SPCC tape 430, side 1 (1986).

180. Joe Eneas, interview SKC Falling Waters project, 1989.

181. Another law, passed in 1903, required the owners or operators of coal mines adjacent to streams "containing fish...to so care for any coal slack or other refuse emanating from such coal mining operations as to prevent the same from mingling with the waters of such stream." *The Complete and Official 1907-08 Game and Fish Laws of the State of Montana*, 32. It would appear this law was also generally not enforced.

182. Henry Avare, Warden, *Biennial Report of the State Game and Fish Warden and Montana State Fish Commission of the State of Montana, 1911-1912* (Helena: Independent Publishing Company, 1912), 31-32.

183. Montana Game and Fish Commission, *First Biennial Report [of the] Montana Game and Fish Commission, 1913-1914* (Helena: Independent Publishing Company, 1915), 3, 7 and 54. Commission Superintendent H.D. Dean further objected to the law that "permitted netting for this fish in the last two years, with the object of exterminating him from certain waters" -- because "I do not believe he can be exterminated without at the same time killing all the other fish in the same water." Dean recommended that legislature "to forbid the use of nets, but to allow the sale of the legal catch at any time." 54.

184. Ibid., 7.

185. Montana State Fish and Game Commission, *Biennial Report of the Montana Fish and Game Commission*, 1925-1926, 31-33.

186. Ibid. Judge Bickford was a signer of Montana's famously business-oriented 1889 state constitution and a Missoula lawyer from a firm specializing in the representation of large companies and corporations. His prominent role in shaping the Commission's policies on bull trout, and the stark contrast with the 1913-14 report, may be a reflection of ongoing conflicts in Montana and American politics throughout the early twentieth century -- an ongoing, see-saw battle between the primacy of scientific inquiry championed by progressivism (for all its drawbacks) set against the continuing advocacy of laissez-faire capitalism and cronyism in government. He did, at the same time, assist the U.S. Fish Commission investigations conducted by Barton W. Evermann in 1891. Evermann, "Reconnaissance," 5.

187. Environmental changes that affected bull trout that are not examined in this paper include, among other things, agricultural activities and the introduction of exotic species.

188. Montana Bull Trout Restoration Team, "Restoration plan for bull trout in the Clark Fork River basin and Kootenai River basin, Montana" (Helena, MT: Montana Department of Fish, Wildlife and Parks, June 2000).

189. Tribal Council, Confederated Salish and Kootenai Tribes, 1992, cited in Confederated Salish and Kootenai Tribes of the Flathead Reservation, "Lower Flathead River: Goals and Objectives" (Pablo, MT: 1993), 1.

190. W. Ladd Knotek, Mark Deleray, and Brian Marotz, Montana Department of Fish, Wildlife, and Parks, "Hungry Horse Dam Fisheries Mitigation Program: Fish Passage and Habitat Improvement in the Upper Flathead River Basin" (Portland, OR: U. S. Department of Energy, Bonneville Power Administration, Environment, Fish and Wildlife, Aug. 1997). Project Number 9 1-O 19-03, Contract Numbers 92BI60559.

191. "Trout Return to Once-Contaminated Creek," Montana *Standard*, 18 Oct. 2007. Other information in paragraph from http://www.doj.mt.gov/lands/naturalresource/resources/projects/silverbowcreekfactsheet.pdf

See also CSKT ARCO-Settlement ID Team, "Wetland/Riparian Habitat and Bull Trout Restoration Plan" (Pablo, MT: Confederated Salish and Kootenai Tribes, August 2000); http://www.doj.mt.gov/lands/naturalresource/default.asp; http://www.epa.gov/region8/superfund/mt/sbcbutte/butteflloodarcoCD1.pdf; and Quivik, "Smoke and Tailings."

192. USFWS Clark Fork Recovery, 35.

193. Vince Devlin, "Ladder to open upstream Clark Fork to fish," *Missoulian*, 14 Apr. 2009.

194. John Fraley and Joe DosSantos, "A Dam Improvement: Bull River Watershed Protection Project," *Montana Outdoors,* March–April 2006.

195. In the 1990s, Missoula County Commissioner Michael Kennedy was the first elected public official to call openly for the dam's removal. As so often happens, he was initially a lone voice and was often attacked for his visionary stance. In time, virtually the entire community came around to the idea, and his erstwhile opponents not only hopped on the bandwagon but also accepted credit for the project.

In April 2003, the EPA issued its proposed plan for the Milltown Reservoir and Dam site. In December 2004, the EPA issued its official Record of Decision, which called for removing the dam and portions of the contaminated sediments behind the dam. In August 2005, federal, state and tribal governmental entities reached agreement on a settlement with ARCO and NorthWestern Corporation for the cleanup and restoration of the Milltown Reservoir area.

See http://www.doj.mt.gov/lands/naturalresource/milltowndam.asp and http://www.epa.gov/region8/superfund/mt/milltown/mrsrod.html

196. Data from powerpoint presentation, "The Transboundary Flathead River: Canadian Coalfield Development Threats and Research Needs in the North Fork of the Flathead," prepared by Erin Sexton, research scientist at Flathead Lake Biological Station, University of Montana, 2008.

ILLUSTRATION CREDITS

Cover

Unidentified Salish-Pend d'Oreille people fishing at Flathead Lake, c. 1915. Salish-Pend d'Oreille Culture Committee, Confederated Salish and Kootenai Tribes.

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John Mix Stanley lithograph. From Isaac Stevens, *Narrative and Final Report of Explorations for a Route for a Pacific Railroad, near the Forty-Seventh and Forty-ninth Parallels of North Latitude, from St. Paul to Puget Sound*, 1855, in *Reports of Explorations and Surveys, to Ascertain the Most Practicable and Economical Route for a Railroad from the Mississippi River to the Pacific Ocean.* Made under the Direction of the Secretary of War, in 1853-5, According to Acts of Congress of March 3, 1853, May 31, 1854, and August 5, 1854. Volume XII, Book 1. Washington: Thomas H. Ford, Printer, 1860.

Bull trout illustration courtesy Joseph R. Tomelleri. Used with permission.

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Territories of Plateau Tribes. From Deward E. Walker, Jr., ed., Vol. 12: *Plateau, Handbook of North American Indians*, ed. William Sturtevant (Washington, D.C.: Smithsonian Institution, 1998), ix. Used with permission.

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"Map of Washington Territory Showing the Indian Nations and Tribes," by George Gibbs and Isaac Stevens, 1854. Courtesy Washington State Historical Society.

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Map of selected major rivers of Salish and Pend d'Oreille territories. Created by the author from Google maps.

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Kootenai fish trap and tipis at Tobacco Plains, 1861, by the Northwest Boundary Survey. Library of Congress (LC-USZC4-11437).

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Spawning bull trout. Photo by Jim Cummins. Courtesy Jim Cummins and Washington Department of Fish & Wildlife.

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Bull trout populations & drainage systems. U.S. Fish and Wildlife Service. 2002. Chapter 1, Introduction, p. 3. In: *Bull Trout (Salvelinus confluentus) Draft Recovery Plan.* U.S. Fish and Wildlife Service, Portland, Oregon. 137 pps.

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Nɬ̓ʔay -- Rattlesnake Creek and Clark Fork River, Missoula, Montana. Oil painting by Tony Sandoval, 2003. Courtesy Salish-Pend d'Oreille Culture Committee.

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Flathead River, looking southeast toward Mission Mountains, 1853. Lithograph by John Mix Stanley from Stevens, *Narrative and Final Report of Explorations.*

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Valley of the Big Blackfoot River, 1853. Lithograph by John Mix Stanley, from Stevens, *Narrative and Final Report of Explorations.*

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Lake Pend Oreille, c. 1904. Library of Congress (LC-D4-9064).

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Kootenai fish harpoon collected by Claude Schaeffer on Flathead Reservation, 1935. Courtesy Division of Anthropology, American Museum of Natural History (AMNH 502_3850 Schaeffer).

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Salish, Pend d'Oreille, and Kalispel leaders with Pierre-Jean De Smet, S.J. during visit to Fort Vancouver, 1859. Jesuit Oregon Province Archives (802.21a).

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On west shore of Flathead Lake, looking southeast, 1853. Lithograph by John Mix Stanley, from Stevens, *Narrative and Final Report of Explorations.*

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Depictions of smallpox victims, 1779-1780 and 1780-1781, details from Lakota winter count by *Wapostangi* (Brown Hat, or Battiste Good). National Anthropological Archives, Smithsonian Institution (image 08746804). *Wapostangi*'s winter counts also note smallpox in 1735, 1801-1802, 1818-1819, 1850-1851, and depict epidemics of unspecificed diseases in other years. Other Lakota winter counts, including those of American Horse and Cloud Shield, confirm the presence of smallpox in many of these years, as well as 1901-1902, the year of the last smallpox outbreak on the Flathead Reservation.

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British Tower .80-caliber musket dating to the 1770s. Smithsonian Institution (2004-26296.09), photo by Richard Strauss. Downloaded under Creative Commons license.

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Tipis at confluence of Thompson and Clark Fork Rivers, near *Sq̓eyłkʷm*, 1884. Photograph by Francis Haines, courtesy Montana Historical Society Research Center (H-2023).

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Beaver pond in Glacier National Park. Photo by Joe Weydt. Used with permission.

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Agent Peter Ronan and family at Jocko Valley residence, 1884. Photograph by Francis Haines, courtesy Montana Historical Society Research Center (H-1333).

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Crow Creek, Flathead Reservation, 1884. Photograph by Francis Haines, courtesy Montana Historical Society Research Center (H-3213).

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Non-Indian visiting Salish men at fishing camp at *Nɬ?ay* (Place of Small Bull Trout -- Rattlesnake Creek near Confluence with Clark Fork), n.d., ca. 1900. UM 486-IX_69-15, photograph by Morton Elrod, Archives and Special Collections, Maureen and Mike Mansfield Library, University of Montana - Missoula.

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Smelters at Anaconda, 1907. From a stereoscopic image. Library of Congress (LC-USZ62-113600).

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Logs in Blackfoot River, 1908. UM 76-6, Archives and Special Collections, Maureen and Mike Mansfield Library, University of Montana - Missoula.

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Railroad ties, Lolo Cr., c. 1900. "Photographs of farmland and scenery in the Bitter Root Valley, Montana," Yale Collection of Western Americana, Beinecke Rare Book & Manuscript Library.

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Opening of the Flathead Indian Reservation to homesteaders, April 1910. 950-741, courtesy Montana Historical Society Research Center.

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Construction of McDonald Lake dam, Flathead Indian Irrigation Project, 1919. Courtesy Rocky Mountain Federal Records Center (NARA).

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Salish or Pend d'Oreille man fishing on lower Flathead River, c. 1900. 78-252, Archives & Special Collections, Maureen & Mike Mansfield Library, University of Mont. - Missoula.

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Milltown Dam, April 1909. Library of Congress (HAER MONT, 32-MILTO).

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Completed dam, 1938. Photograph by C. Owen Smithers, courtesy Smithers & Son Photography, Butte, MT.

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Cabinet Gorge, c. 1870-1890. Isaac G. Davidson photo. Denver Public Library, Western History Collection (z-6563).

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Albeni Falls Dam. U.S. Army Corps of Engineers.

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Noxon Rapids Dam and Reservoir, April 2009. Photo from Wikipedia Commons.

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"A world transformed: Some major dams in the history of bull trout and the Salish and Pend d'Oreille people." Map constructed by author from map by Erwin Raisz, "Landforms of the Northwestern States," used with permission of Raisz Landform Maps.

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From Montana State Fish and Game Commission, *Biennial Report of the Montana Fish and Game Commission*, 1925-1926.

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March 2008: Milltown dam is breached. Photo by Thompson Smith.

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Germaine White teaches reservation schoolchildren about the CSKT Jocko River restoration project, 2008. Photo by David Rockwell.

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