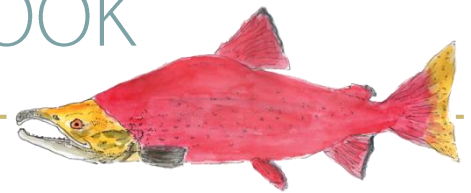


# ARTA RIVER TRIPS INTERPRETIVE HANDBOOK



## IDAHO EDITION



# ARTA RIVER TRIPS

## INTERPRETIVE HANDBOOK



river trips

## INTRODUCTION

Sharing the wonders of the natural environment with our guests has long been a hallmark of our trips. This tradition has its roots in the earliest days of ARTA's history (when all guides were hippies and lived in tree houses and had names like Moss and Teal and Rain) and is a central tenet of our non-profit philosophy:

*To introduce our guests to the wilderness and to involve them in our trips in a manner that is safe, meaningful, and beneficial to both the individual and the environment.*

At Disorientation 2010, on the Rogue River, ARTA guides decided to renew our emphasis on interpretation by creating a resource manual that could be shared amongst guides and passed down through generations.

This handbook is the result of that idea.

Since 2011, as one of the requirements for being core crew (and in order to get a coveted "year-end gift") all ARTA core crew guides have submitted an interpretive essay (lovingly called an "Interp"). The guidelines for what is acceptable (topic, length, originality) are vague (as you will see when you read through these), but the goals are simple:

- To learn something that will improve your ability to interpret the natural environment during a trip and
- To share that information with your fellow guides by distilling it into an easily digestible summary.

If you submitted one of the Interps in this handbook:

Thank You! You are part of the incredible legacy that comes from being an ARTA guide.

If you are hoping to submit an Interp someday:

Good Luck! You are getting off to a good start by reading these.

If you are just browsing:

Enjoy!



Want a year-end gift?

At Disorientation 2016, on the Green River, ARTA Guides decided that the reward for submitting an Interp would be a year-end gift, (or, less positively, that the punishment for NOT turning one in, would be NOT getting a year end gift).

Additionally, in 2016 it was decided that Interps could be submitted at the end of the season (before Disorientation) and that their “suitability” would be determined by a “peer-review” during Dis-O. If more than half of the guides who attend Dis-O deem that an Interp fails to meet the nebulous “acceptability threshold”, then that guide would not be eligible for a year end gift.

What is the acceptability threshold? Well, that’s up to your peers. But let’s review the goals of this whole idea:

- To learn something that will improve your ability to interpret the natural environment during a trip

That means something pertinent to where you spend your summer; something that will deepen your understanding of the local environment when you are on the river. Ideally, you should be able to give a short presentation on your Interp topic to our guests, so this means more than cutting and pasting from Wikipedia. It means spending some time trying to learn something and figuring out a creative way to present it to our guests. When your Lead Guide approaches you on day 3 and asks you to give a short morning Interp, you should have something in your back pocket.

But wait, there’s more.

Another part of this whole thing is to share our personal knowledge with those who we work with AND with those who will follow us. So the tangible part of the Interp is:

- To share that information with your fellow guides by distilling it into an easily digestible summary.

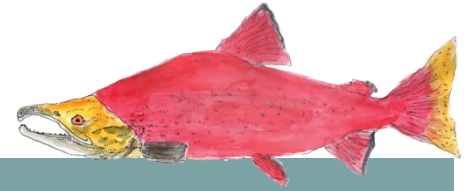
You can choose your voice, but the key quality is to make the information *memorable*. Your written Interp should give your fellow guides the key nuggets of information they need to be able to share with guests on a more casual basis so that they look brilliant. Highlights, key dates, terminology, fun facts, trivia, and peculiarities are the types of things that are most likely to be remembered and shared.

All with the hope that this will help people love the places we love.



# ARTA RIVER TRIPS

## INTERPRETIVE RESOURCE MANUAL



river trips

IDAHO EDITION

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## Cutthroat Trout By Tanner Welch 2011

As floating travelers of rivers, we often fail to observe the abundance of life that lies beneath its surface. Many of the streams we float are healthy and filled with life, others are more sterile and less occupied. We seem to frequently hear of the epic life cycles of salmon and their tremendous journey from fresh to salt water and back. Rarely do we hear about the life cycles of the trout that reside in rivers or lakes for the entirety of their life. Of all the life that resides in these rivers, permanent or seasonally, I am going to focus on Cutthroat trout and the animals that are part of their life and death.

The common name "Cutthroat trout" comes from the fish's two reddish orange markings below its gill plates (Guide note: indicate where gill plates are). Their latin name is *Oncorhynchus Clarkii*. The genus name *Oncorhynchus* is derived from the greek *onkos* meaning hook and *rynchos* meaning nose as males of this genus often have hooked jaws or a "kype" during spawning. This genus includes all pacific salmon and pacific trout. The species name *Clarkii* was given in honor of William Clark (of "Lewis and Clark"). One subspecies of Cutthroat trout, the Westslope Cutthroat trout (which is what lives on the Middle fork of the Salmon), is named in honor of both Lewis and Clark with the latin name *Oncorhynchus Clarkii Lewisi*. Part of Lewis and Clark's mission in finding an inland passage was to describe the flora and fauna that they discovered. They discovered the Westslope Cutthroat at Great Falls of the Missouri, in what is now Montana.

Cutthroat are native to western North America and through geographic isolation have evolved in to as many as 12 subspecies.

### **Wait! What is geographic isolation!?**

It is believed that Cutthroat evolved from an *Oncorhynchus* species that migrated up the Columbia and Snake river basins. As environmental changes occur, such as mountain formation, members of the same species can become isolated. These isolated populations are then subject to different selective pressures and can evolve differently. Over long periods of time an entirely new species can arise.

Cutthroat trout are a great example of geographic isolation and its resulting geographic speciation. Each subspecies of Cutthroat is native to a separate geographic area. They are believed to have evolved over the past two million years from one common *Oncorhynchus* ancestor.

### **Okay okay, enough about their name, evolution, and all that latin and greek rubbish, I want to see one!**

Well if you are on the Middle Fork of the Salmon then you probably will (if you keep your eyes focused beneath or on the waters surface, which is hard to do with all the beauty and wonder above). Like most animals on our planet, Cutthroat spend most of their time eating or searching for food. They dine primarily on insects but will eat just about anything that will fit in their mouth (including smaller Cutthroat). Approximately 90% of what a Cutthroat eats is below the surface, whether it is other fish, their eggs, or aquatic insects. The exciting feeding for us however, is the 10% of the time that Cutthroat eat from the surface.

There are a variety of insects that spend the vast majority of their lives as aquatic nymphs. At the end of their lives they swim to the surface, emerge from their aquatic carapace and fly up the stream to mate. Many of these insects only live a few days after they have emerged as adults after spending years underwater. The event of insects rising to the surface and taking flight is commonly called a hatch. Hatches can be triggered by changes in weather or water temperature and often occur en masse. Because the insects must leave the shelter of the bottom of the river and rise through open water, Cutthroat go in to a feeding frenzy, initially eating the insects as they swim to the surface and switching their attention to emergers and eventually adult flies as the hatch cycle progresses. The adult insects, after hatching, must then lay their eggs back in the water. This requires them to land back on the surface and float. This short float provides ample opportunity for trout to eat them. Mayflies, Caddis flies, and Stone flies are common insects that have this type of life cycle. Depending on the time of year, on the Middle Fork, we are likely to observe one or more of these types of insects. (Guide note: if you know your insects, describe some of these insects and/or catch them and show them off throughout the day) Learning to notice when these hatches occur and being present for one almost guarantees you will see Cutthroat feeding.

**Cutthroat Trout**  
**By Tanner Welch 2011**  
**Page 2**

Just like most animals, Cutthroat prefer to expend as little energy as possible. Residing in a stream provides both benefits and drawbacks when trying to be lazy. The fish is forced to fight current continually but there are many places in a stream that the current is minimized by obstructions such as rocks and river banks. One benefit is a higher abundance of oxygen as the turbulent water continually gets aerated. Another benefit is that the current acts as a conveyor belt bringing food to a stationary fish. For these reasons it becomes quite predictable where fish reside within a stream. They prefer protection from predators, like Osprey and larger Bull Trout, as well as protection from the current while having access to the conveyor of food. Great examples of these locations are along an undercut bank or behind a rock. The bank provides protection from the current (behind small protrusions in the bank) and from predators from one side and potentially above. It also provides easy access to the conveyor of food. (Guide note: show some examples of places like this or draw one in the sand). Cutthroat tend to face nose in to the current watching for food flowing down stream. They are colored in a way as to camouflage them from both above and below. With a dark back and a white belly they blend in to either the sky or river bottom depending where they are being observed from.

Cutthroat vary in size from 6-40" depending on subspecies, environment, and availability of food. Resident Cutthroat will spend their entire life within one stream while some are migratory and travel between lake, stream and even ocean. All species spawn at higher flows in the spring when the water temperature is above 50° Fahrenheit. They construct a redd to lay their eggs in (like a fish nest excavated in the stream bottom by the fish) like salmon do. The female chooses the site and builds the redd. She then lays up to 4,400 eggs depending on the size of the female (this tremendous number of eggs is Cutthroat's way of dealing with the fact that most fish don't survive their first year). The eggs are then fertilized by the attending male and remain in the substrate until they hatch about a month later. The young (or fry) spend a few weeks in the gravel while they absorb their yolk sack (the remainder of nutrition provided from their egg). Despite having a yolk sack they begin feeding as soon as they emerge from their eggs. Juvenile Cutthroat typically require 5 years to mature.

In the fall and winter, cutthroat trout seek habitats with abundant wood and/or rock cover. To survive the winter, adult cutthroat trout need deep, slow-water pools that do not fill with ice. Juveniles overwinter in the interstitial spaces between rocks or boulders. During this time, their activity levels decrease, and survival depends on the availability of suitable food, as well as shelter from predators, freezing water, and high flows.

Hopefully now, with a little knowledge about the inhabitants of the water below we will be more aware of their presence and may observe part of their lives. Watch for insects and try to find the places where trout hang out. Just think, if I were a trout, where would I want to be?

**List of subspecies**

**Pacific Coast**

Coastal cutthroat trout *O. c. clarki*, also known as "sea-run" cutthroat; native from northern California to Alaska.  
 Crescenti trout *O. c. crescenti*, no longer a recognized subspecies, but a unique population of coastal cutthroat endemic to Lake Crescent, Washington state.

**Great Basin**

Alvord cutthroat trout *O. c. alvordensis*, endemic to tributaries of Alvord Lake in southeastern Oregon; considered extinct. Named in 2002.  
 Bonneville cutthroat trout *O. c. utah*, native to tributaries of the Great Salt Lake.  
 Humboldt cutthroat trout *O. c. spp.*, found only in the upper Humboldt River of northern Nevada. Considered by some to be a population of *O. c. henshawi*.  
 Lahontan cutthroat trout *O. c. henshawi*, western Nevada, designated as threatened.  
 Whitehorse Basin cutthroat trout, *O. c. spp.*, [4] once considered a separate subspecies, native to southeastern Oregon.  
 Paiute cutthroat trout *O. c. seleniris*, endemic to eastern Sierra Nevada Mountains, designated as threatened.

**Northern Rockies**

Snake River fine-spotted cutthroat trout, named *O. c. behnkei* (1995 & 2002), but some consider it a population of *O. c. bouvieri*. Native to the Snake River of Idaho and Wyoming.  
 Westslope cutthroat trout *O. c. lewisi*, native to northern Idaho, Montana, British Columbia, and Alberta.  
 Yellowfin cutthroat trout *O. c. macdonaldi*, endemic to Twin Lakes, Colorado; now extinct.  
 Yellowstone cutthroat trout *O. c. bouvieri*, native to the upper Snake River, Yellowstone Lake, and Yellowstone River, Idaho and Wyoming.

**Southern Rockies**

Colorado River cutthroat trout *O. c. pleuriticus*, native to tributaries of the Green and Colorado Rivers.  
 Greenback cutthroat trout *O. c. stomias*, native to the Arkansas and South Platte Rivers in eastern Colorado; designated as threatened.  
 Rio Grande cutthroat trout *O. c. virginalis*, native to New Mexico and southern Colorado.

**Middle Fork of the Salmon River: The Possible First Descent**  
**By Thad Stavn - 2011**

*“I suppose my main reason for wishing to run this rough piece of water with a light boat is because so far as I could find out it had never been done and the “Genus Homo” is very prone to try something new; especially if it is difficult to accomplish.”*  
 -Henry Weidner 1921

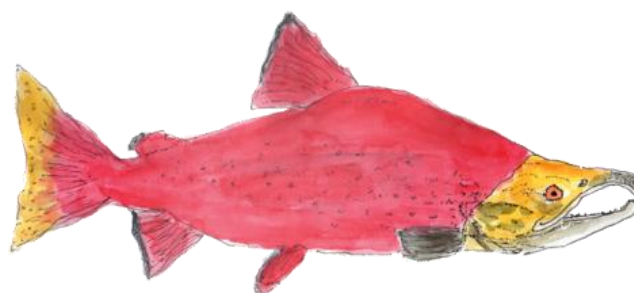
On July 3, 1926 the one-eyed Henry Weidner accompanied by his non-swimming 16-year-old son Wes along with two others launched their boats on the headwater tributary Marsh Creek. The common launch today being Boundary Creek did not come into play until the road was constructed in 1959 for the purpose of constructing a fish ladder at Dagger Falls to “assist” salmon and steelhead reach their native spawning grounds. These four men, which around Mile 75 of the trip became three due to one hiking out at Big Creek, would experience a trip of solitude and adventure unlike the trips we commonly see today.

Obviously the majority of crafts utilized today to float the river did not exist and the craft of choice for their descent was the wood and canvas canoe. The party brought two canoes, an Old Town and a Mullens sponson-style. Unfortunately the Mullens was not designed for swift water and once loaded with several hundred pounds the stability was described as such, “It would upset if you shifted tobacco from one side of your mouth to the other.” This canoe was eventually abandoned before Impassable Canyon due to a quarrel that resulted in one hiking out.

Can you imagine running Weber, Rubber, and House Rock or for that matter Impassable Canyon in a canoe with three people and gear? Interestingly a large portion of their gear load was a film camera with 4000 feet of film. Henry Weidner was more than a Jack-of-all-trades and ended up using 3000 feet of film capturing the wonders of the Middle Fork. Also along the way they killed mountain goat, elk, deer, bear and sheep for food. Imagine eating fresh elk sirloins cooked over the fire on the Middle Fork...dreamy idea for the wilderness hunter type.

By the end of the trip the party had spent almost the entire summer on the Middle Fork of the Salmon. Now days we are allowed to spend one night in Impassable Canyon, the Weidner party spent three weeks in Impassable Canyon alone and reached the end of North Americas third deepest canyon by the end of September. Of special interest and maybe a great point on the river to relay this brief story is the 1930 USGS dedication of a rapid to Henry Weidner (Weidner Rapid) that is more commonly called and listed in recent guidebooks as Cliffside.

Information was gathered from [The Middle Fork: A Guide](#), Carrey and Conley.





**Native Americans of Central Idaho**  
**Ken Brazzell - 2011**

People first showed up in what is now central Idaho ten to twelve thousand years ago. At first they probably ventured into the high country only during the summer months. As the Pleistocene Epoch came to an end and the climate started to trend towards warmer temperatures the area started to become occupied throughout the seasons. Not until four thousand years ago did the climate become similar to what we see today, semi-arid with a short summer and long cold winters. The 45<sup>th</sup> parallel cuts through central Idaho making for long days in the summer and long nights in the winter. Barely over two hundred years ago Europeans discovered the Natives in this area still following the seasons up to high country to gather plants, hunt and fish and heading to lower elevations for the long winter months.

Some of the earliest carbon-dated sites in Central Idaho are by Red Fish Lake near the Sawtooth Mountains outside Stanley, next to Dagger Falls on the Middle Fork, and near the confluence of the Middle Fork and the Main Salmon. At this time the date is around 8000 B.C.E. and people all around the world are still living the hunting and gathering lifestyle. This is about to change in the Middle East, Africa, Asia, and Europe as plants and animals become domesticated and the modern city is born. In the Americas this doesn't happen although many other changes do occur. As generation after generation lives in and around the Middle Fork massive amounts of information is passed down about the land and its contents, weapons evolve, living arrangements progress, and the artifacts of daily living become more efficient.

Around the Middle Fork of the Salmon hunting weapons progress through stages; the basics are the spear, atlatl, and in the end a special bow and arrow system where the bow is made from the horns of a Bighorn Sheep. During the Sheepeater war of 1879 this bow was reportedly powerful enough to shoot an arrow all the way through a person. The natives called themselves Tukudeka, which literally meant sheep eater, linguistically they were a part of the Shoshone Tribe. Another tribe of the Shoshone called themselves Agaidaka, or salmon eaters. This was based on the primary food source for each group. The Tukudeka were so skilled at hunting Bighorn Sheep that they produced hides from these animals that were highly sought after trade goods. To make a quality hide the brain from the animal is rubbed into the skin making it soft, pliable, and comfortable for wearing. The Tukudeka killed enough sheep that they used two brains per hide, reserving the excess hides for covering their pit home dwellings. A sought after import was obsidian, even though there are almost no local sources it is still found throughout the canyon. Analysis of the samples shows that it came from as far away as Oregon, Nevada, Utah, and Montana. They had transitional home sites up and down the Middle Fork of the Salmon with pits dug out that kept the home cooler in the summer and warmer in the winter. The rest of the possessions were carried from site to site as they traveled. Numerous sites along the Middle Fork of the Salmon still have depressions where these homes were situated. There are also many pictograph panels throughout the canyon painted with a bright red pigment consisting of iron oxide mixed with water and a binding agent. The binding agents used included; saliva, urine, blood, plant juices, or egg whites. Few interpretations agree and nobody probably knows the true meanings except maybe the original artists.

The canyon most likely supported less than one hundred men, women, and children and when they were cleared out in 1979 about 50 were actually captured and moved to a southern Idaho reservation. The excuse for removing them was flimsy; the truth was about gold and greed. The land then became open for homesteading and many tried their hand at making a living in the canyon and claiming up to 160 acres of free land. After less than one hundred years few remained. The settlers imported a lifestyle that did not mesh easily into this harsh environment. Their culture involved agriculture, mining, Christianity, and a sedentary way of life. Most of the natives' vast knowledge was ignored and forgotten. In 1968 this region became protected under the Wild and Scenic River Act and barely more than a handful of properties remained and were grandfathered in. Today these exist mainly with the support of airstrips and are far from self-sufficient.



## Murder on the Middle Fork Kellye McKee - 2014

In 1917, Charles and Frances Ernst were miners along the middle fork of the Salmon River. They had been married for 7 years, as soon as Frances was 18, Charles being 24 at the time. They had one son, Charles Jr.

Charles was an abusive husband, and Frances could take no more. In November of 1917, Frances and Charles divorced in Challis. Charles was given custody of their son. The divorce was what they needed, and they were still on good terms. While in Challis, they were seen in “friendly conversation”. It is believed that during this time they came up with a scheme.

Two miles south of where Charles and Frances had their cabin, lived a young man named Julius Reberg. Julius was a hard worker and had a nice cabin, a barn, an out-building, cattle and horses. Charles and Frances had met him a few times, and Frances had become fond of Julius. Once divorced, Frances headed to Julius’ ranch to become his new bride. (Or possibly had something else in mind....)

There are differing stories about what happened in the next month, but in December, Charles showed up at Julius and Frances’ house. (Either uninvited or invited by Frances, we don’t know) Charles showed up with a rifle just after sunset, and crept close enough to the cabin to see through the windows. He waited all night, watching the private lives of Frances and Julius. The next morning, Julius went out on the porch to wash for breakfast in the washbasin. Frances claimed that the next thing she knew, she heard a rifle fire. Julius had been shot through the abdomen, the bullet entering from the right side, and exiting through the left.

Charles’ version was different. He said that he held Julius at gunpoint and disarmed him, but that Frances had pulled the trigger.

Either way, Charles and Frances buried him in a shallow grave a couple hundred feet away from the house.

Charles left the cabin a couple of days later. He made his way back to Clayton where his son was staying. He made a point in telling people that Julius had “run off”. (There was a possible reason for Julius to run off. In April of that year, the US Congress passed a war resolution in which: all men age 21-30 were required to register for the draft on June 5. Julius Reberg did not register. If caught, he would be branded a “slacker” and would serve one year in prison. There was resistance to the draft among farmers and ranchers. Leaving their crops and livestock for eight months or more would mean that they would come home to almost nothing. Julius was 30 at the time, and was hoping that the government would forget about him and his little ranch. )

Albert Kurry, who lived at Brush Creek, a couple of miles downriver from Julius’ ranch, stopped by a couple of times after the murder. Each time Frances would say that he was out fishing or the like. After visiting a couple of times and never seeing Julius, Albert Kurry mentioned his suspicions to the postmaster, who passed the word on to forest ranger Jack Oquin. Jack headed up to the ranch and talked to Frances who said that Julius had gotten afraid that he was going to be taken in as a “slacker” so he headed downriver.

Suspicious continued, and January 10<sup>th</sup>, Sheriff Frazier of Salmon, Lemhi County learned of the suspected murder. He, the coroner and a coroner’s jury of six settlers traveled to the ranch. They found the body of Julius and determined that he was killed on December 18<sup>th</sup> by a gunshot wound administered by Charles Ernst. They reburied the body and headed back to Salmon.

The deputy Sheriff went from Salmon to Challis and arrested Ernst. Frances, who was in Florida and living with her parents at the time, was summoned to Idaho for the trial. It was a very lengthy trial, in which many different stories were told. 18 months after the preliminary hearing, Frances wrote 2 letter to the former prosecuting attorney of Valley County, one in which she confessed that she killed Reberg, the other gave details.

Charles was found guilty of second-degree murder and was sentenced to 10-20 years in prison; he was pardoned after two and a half years. Frances pled guilty to manslaughter and was sentenced to 5-10 years. She served four and a half years before she was pardoned.

**“The Hermit of the Impassable Canyon”  
Brett Pascoe - 2014**

Earl K. Parrott, was born in 1869 as the 7<sup>th</sup> of ten children to Joseph and Sarah Parrott. In his early years Earl attended school and worked at his father’s shop in Wilsburg (now Blanchard), Iowa. When he was 18 his father sold his shop and moved the family to Orange Park, Florida, where Earl became a truck farmer for fruits and vegetables. Earl spent his free time learning about telegraphy, and after about two years of practice he was able to become an employee of the Jacksonville, Tampa, and Key West railroads. Earl left the railroad business in 1898, because he had become color blind and therefore could no longer see the difference in the railroad signals. After leaving the railroad business it is not exactly sure where Earl went next, however his brother believes he went straight to Idaho but may have stopped by the Yukon to join the gold rush for a short while.

Parrott built and lived in a cabin that was in a hanging valley 3500-3800 feet in elevation above the Impassible Canyon. He had a series of wooden ladders that he used to climb down the steep cliff walls to get back and forth between his cabin and the river. His cabin was a half dug out, log cabin, next to a huge garden where he grew fresh fruits and vegetables. Alongside gardening and drying his fruits and vegetables, he would hunt deer and bear, and pan for gold.

He would go years without seeing people, and rarely ever left his cabin in the canyon. Very few people actually saw Parrott and his cabin, or even knew that a man was living as a hermit in the canyon. Until a group of explorers on an expedition down the Salmon, came upon him and asked to trade salt for some vegetables. One of the explorers was Dr. R.G. Frazier, who after his encounter with Parrott and return to society wrote an article along with pictures, about the hermit and was published in Field & Stream and the Salt Lake City Deseret News.

For the few people that did encounter Parrott throughout his life, they said he was a stubborn man, lacking in humor with a dislike for children. He was also noted as possibly having been in love once and was disappointed by it, and ever since seen women as useless.

In March 1942, Parrott was diagnosed with an enlarged prostate gland and moved to Salmon, Idaho. From here he moved to a couple of different places, but eventually ended back in Salmon. In the years of 1943 and 1944 Parrott had a cerebral hemorrhage, followed by paralysis of half of his body. He was unable to walk or talk and was cared for at a nursing home until his death on August 15, 1945, at the age of 75.

*“The more I see of people, the more I like my dog.”  
-Earl Parrott*

**Salmon of the Middle Fork  
Tanner Welch - 2014**

Long before they are mothers, Middle Fork salmon begin their life 6,250 feet above sea level in the crystal clear water of Marsh Creek, one of two creeks that flow together to form the Middle Fork of the Salmon just outside of Stanley, Idaho. Here, a young female salmon enters the world as a half-inch-long **fry**, unaware of the all the natural and unnatural challenges she will face in her lifetime.

In the Middle Fork watershed, salmon populations today are about 5% of their once colossal magnitude and in order to sustain that number and survive to adulthood and return to this very spot to bring forth her own children, our young mother will need all the traits of motherhood: persistence, intelligence, instinct, relentlessness, spunk, love and luck.

As she consumes her yolk sack she will develop camouflage stripes and start feeding. At this point she turns from a fry into a **parr**. She will gradually become more and more courageous and dart farther and farther from the **redd** (or salmon nest) that her mother made for her. Historically her "neighborhood" would have consisted of 400-500 other redds but in the year 2000, biologists only counted 36 redds in the Marsh Creek drainage. After spending 6 months growing and feeding in the upper part of the river this female salmon will have become a **smolt**. Only 10% of her brothers and sisters will have survived this long. She will now begin the long journey downstream to the ocean. Historically, with the rush of high water that comes with the snow melt in the spring, smolt could make the nearly 1000 mile journey to the ocean in a matter of days. But things have changed: there are now eight major dams and over 300 miles of slackwater between her and the ocean; our six-month old, now three-inch long mother-to-be has her work cut out for her. The dams will actually be a bigger problem for our downstream-traveling mother than they will be when she returns upstream as a spawning adult.

As she moves downstream she imprints specific information from the water chemistry which will enable her to remember exactly how to get back to this spot, all the while avoiding the predator fish, hungry birds and voracious bears who are equally determined to survive and want to eat her for dinner. For the first 300 miles, she will enjoy the natural journey down the length of the Middle Fork and Main stems of the Salmon River.

Shortly after reaching the Snake River, she will face her first major unnatural obstacle: Lower Granite Dam and Reservoir. She has known which way to go (downstream) until this point, but now she will find herself in a motionless pool. With no sense of direction, she may spend weeks in the reservoir where water temperature can be dangerously high. And she has four of these dams to navigate before reaching the Columbia. At each dam 8-10% of her fellow travelers will die. They will either succumb to the warm water of the reservoir or they will die when their swim bladders explode as they are forced through the powerhouse turbines at high speed and pressure.

These four dams on the Lower Snake River have been devastating to salmon. Constructed in the 1960s and 70s they are believed to have caused a reduction from 130,000 spawning adults in the Snake in the 60s to 15,000 in the 90s. In 1986 Snake River Coho (Silver) salmon became extinct. Since then four stocks of Snake River steelhead and salmon have been placed on the endangered species list.

Yet our mom charges on. She is among the elite. She is determined. And she is lucky; as she makes it through the four Snake River dams and out to the mighty Columbia she will have bid farewell to another 35% of those salmon who made it down the Salmon. Now swimming downstream in the massive Columbia River, our mom is more than half way to the ocean and on the home stretch.

Well almost. Just four more dams on the Columbia. Interestingly, she will have entered the Columbia just downstream of the Hanford Reach. The Columbia River is 1,243 miles long and the Hanford Reach is 51 miles long, yet it is the only non-tidal, free-flowing section of the Columbia in the United States. The US government produced plutonium at what is called the Hanford Site along this section of the Columbia and due to radioactive pollution, this area has been relatively untouched (no one wanted to build a dam near the pollution) and now, ironically, the Hanford Reach harbors the healthiest run of wild salmon on the main stem of the Columbia. This section of river was designated a National Monument by President Clinton and is now protected from development, giving our young female's companions from other parts of the Columbia drainage a brief bit of natural watershed on their journey to and from the ocean.

After more of her family has been lost to the four Columbia River dams, our hardy female smolt makes it to the ocean. She is truly tenacious. Of all her fellow smolt that made it to Lower Granite Dam on the Snake only 43% will make it through the final dam on the Columbia. She will spend time in the tidal waters of the Columbia River delta near Astoria, Oregon adjusting to salt water and then, after months of downstream travel, she will swim out of the mouth of the Columbia into the Pacific Ocean.

Salmon of the Middle Fork - Tanner Welch – 2014

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Here, if she can avoid the vast number of predators the ocean has to offer, she will grow to an adult. For 4 years, our salmon will feed on the rich nutrients of the sea and grow in size and strength, all in preparation for becoming a mother. She will live in the ocean, traveling thousands of miles in search of the ideal temperatures and more food. She will eat herring, krill and small amphipods. Her instinctive desire to become a mother will help her avoid commercial salmon fishing nets and her natural mom-sense will help her keep an eye out for the dreaded Orcas. Eventually she will notice her male counterparts becoming more attractive. They will grow a **kype** (a large, hooked jaw), a hump, large canine teeth and they will start to change color. She will change color too as she thinks more about her destiny and then, on the perfect day in the fall, she will decide that this is the moment and she will swim back into the river and begin her journey up the Columbia to become a mother.

But the journey is so difficult. Up through four dams: Bonneville, The Dalles, John Day, and McNary. Many of her companions will not make it. She turns right into the Snake, following the familiar smell of this water. Four more dams: Ice Harbor, Lower Monumental, Little Goose and again, her original nemesis: Lower Granite. With each dam, she sees fewer and fewer of her brothers and sisters; again, painfully, they are lost to warm deadwater. At mile 600, she turns left into the familiar Main Salmon River. Upstream, upstream, upstream, against the current, through Slide Rapid, Snow Hole, Salmon Falls and many more natural obstacles that seem simple after the concrete obstructions below. And with each passing tributary, she says goodbye to her salmon friends as they turn to go up their own homewaters. She pushes on, guided by her instincts and the smell of her home. She turns right up the Middle Fork, excited to be back in the waters she knew as a smolt. Through Impassible Canyon whose name seems silly to her, up Velvet Falls and then up Dagger Falls until she reaches Marsh Creek where she swims again in the crystal clear waters of her youth - her mother's waters. She returns to within feet of where she was born and she rests. She is now old, worn out and decrepit from the many miles she has seen. She has not eaten on her journey - the transition from salt water back to fresh water is terminal, this is not an adaptation as it was before, this is surrender. This is the price of motherhood for a salmon.

It is time to finish her journey. She will find the best location to build a redd, just like the one she was born in. She looks for clean, shallow flowing water. Using her body as a tool she will flutter on her side and use her powerful ocean-grown tail to whack at the bottom of the river moving big rocks and brushing away fine sediment to create a network of nooks and crannies in the gravel with water flowing through them. This exhausts her. Her fins are mangled and torn and have started to rot. Her skin has turned gray and her muscle tone is gone; her flesh is torn and hangs in shreds. Fortunately, she looks great to the male salmon who have also made it up this far. With her waning strength, she will lay her eggs so that they drift down into the various pockets she created in her redd. She will lay thousands of eggs and she is smart enough to build and lay them in multiple redds. Somehow, she understands the numbers game that life has dealt her and she musters her strength to increase the odds. Then she drifts away while a male squirts his sperm, or milt, into the water upstream of the redd so that it trickles down on the eggs and fertilizes them. And then she is back to work, one last gesture as she gently loosens gravel and sand from upstream of the redd and lets it drift down to “tuck in” her little babies-to-be.

At this point in her life, she is spent; she has nothing left. Technically, she is a **kelt**, or spawned salmon; but biologically, she is a success; she is a mother. She has fulfilled her life's mission and done what less than one-half of one percent of her fellow salmon that were born in Marsh Creek have done: she has reproduced.

She will spend the last days of her life swimming in her home waters before finding a shady eddy where she will finally turn on her side, drift into the grassy shore and return her nutrients back to nature.

## Sheepeater Indians Isabelle Guthrie, 2104

The sheepeaters were a blend of Shoshone and Bannock peoples who spoke the Shoshone language. The Shoshone lived more in central eastern Idaho while the Bannock were more central. Sacajawea was a Shoshone, and as you may know, met with her brother on the Beaver Head River over the Bitterroots during the Lewis and Clark expedition. This introduction saved the expedition because the Shoshone wanted to kill Lewis and Clark when Sacajawea's brother recognized her long lost (kidnapped) sister.

The sheepeaters- or "tukudeka" in the Shoshone language- were similar to the Shoshone tribe, however they lived in the rugged territory of the Middle Fork of the Salmon River as well as the mountains of northwestern Wyoming, southwestern Montana, and central Idaho. They were a smaller tribe and intimidated by the larger Nez Perce tribe as well as other plains tribes that would occasionally come into the territory to pillage game. This would happen particularly if the buffalo hunts were not good.

The Sheepeaters differed from many other Native American tribes. They were said to be the most skilled foot hunters of all Idaho Native Americans, they traveled in small groups of two or three families -because food was scarce and could not accommodate large groups- and were more than capable of using each and every resource to create remarkable clothing and all the necessities needed to progress. These skills were essential for their survival. They were famous for their tanned hides because they spent more time perfecting their tans and determining what it took to do so while many other tribes had more leisure time to work on handicrafts. Most Plain Indians were known to use one brain per every hide they tanned, while the Sheepeaters used two brains per every hide. This technique made for the most desirable, and best looking hides throughout all Indian tribes as well as to white fur-traders.

The Sheepeaters were always worried about intruders, climate, starvation, shelter, and more... their rugged environment was difficult to survive in, and therefore they lived a very different lifestyle. They were also known for their extremely powerful sinew-backed bows made of the horns of a ram. Big horn Sheep were dominant in the Sheepeater habitat and were used like the Lakota used the buffalo, in every aspect of life. The arrows that were used with these famous bows were poisoned in a mixture mostly consisting of Iris root. Below is a picture of the bow crafted out of a horn as well as the poisoned arrows in a hide case.

The Sheepeaters, as said in the name, used "Mountain Sheep" as their main staple of food and clothing resource. However, they were also famous for making the hunters moccasins out of badger skin because of the thickness compared to big horn sheep, as well as using all animals in the area for different articles of clothing. Badgers were more common in this central Idaho location which is also why the Sheepeaters used a variety of elusive animals that they were adept in hunting for commonly used items.

Headbands were generally made from fox skin, while coyote skin was used for leggings, antelope skin was used for a man's breechcloth, and snowshoe rabbit fur was sewn onto blankets for extra warmth. From time to time, a great hunter would kill a wolf -which was a very difficult task- and sew a robe which was a illustrious handicraft perfection.

On the Middle Fork of the Salmon River you can see many historical markings of the Sheepeaters. These markings include dugouts on the ground, and in scree fields, which were used as shelter and camouflage for the Sheepeaters while hunting. You can also see Sheepeater pictographs throughout the river canyon. These pictographs are pictures painted on to rock walls by the natives with paint consisting of fat and berries. The pictographs are said to have been painted by religious shaman and tell a story about the Native American culture. Aside from all of the historical beauty, many of the names on the Middle Fork were created because of the Sheepeater Indians and their struggle. These names include: Sheepeater Hot springs, Indian Creek, Vinegar Hill, Ramey Ridge, Soldier Bar, Bernard, and Papoose Creek.

The Sheepeater Indians make up a huge part of our history, especially on the Middle Fork of the Salmon River. The privilege to raft in an area where they lived, struggled, and survived is a great honor and allows us to walk in their tracks, soak in their springs, and embrace the land that they made their home for over 10,000 years.

**Lewis And Clark  
Kellye McKee - 2013**

- In 1803, Napoleon offered to sell the whole Louisiana Territory. The United States paid 15 million dollars for it, which more than doubled the size of the US at the time.
- President Thomas Jefferson chose his chief aid- Meriwether Lewis (skilled soldier and woodsmen) to lead the expedition (28 years old)
- Lewis wanted a co-captain- he chose his old army commander, William Clark (32 years old) who was an expert map maker and great leader
- Lewis and Clark and a group of US Army volunteers left from just upstream of St. Louis in May of 1804 on the Mississippi River, heading to follow the Missouri River upriver until they found it's source
- The goal was to find a water route to the Pacific and to explore the newly acquired land
- Lewis was studious and solitary, and Jefferson told him to record every new thing he saw
- Clark stayed on the boat and recorded the route to make an accurate map
- They were ordered to be friendly with the Native tribes, and when they came across any tribes, Lewis would let them know that the United States now claimed their land
- They traveled 1600 miles in 5 months- but the cold on the prairie was ahead
- The expedition stayed with the Mandans- 5 villages with more than 4,000 people for 5 months of winter
- The expedition hired a French fur trader, Charbonneau, to be an interpreter. He had 2 young Shoshoni wives, captures in a raid. Charbonneau was asked to bring along one of his wives to help interpret on the trip. Sacagawea was about 16 years old, and pregnant.
- They needed horses, and Sacagawea's tribe, the Shoshoni, might have some, so they set out to find and meet her tribe
- Along the way, Sacagawea became very important to the expedition- showing them
- edible plants and roots, like white apples, and wild artichokes
- In June 1805, in present day Montana, the expedition came to a fork in the river (where they wanted to stay on the Missouri). A chief had told them that if they found a waterfall, they would know they were still on the Missouri.
- Once they found the waterfall, they had to portage 17 miles, which took almost a whole month
- Lewis set out with a scouting party to search for the Shoshoni people, in hopes that they could help the expedition. He wrote, "If we do not find them, I fear the successful issue of our voyage will be very doubtful."
- The other men, which Clark, were heading upstream to find the source of the Missouri river. They hoped from there that they would do a quick mountain crossing, and then an easy ride downstream on the Columbia River to the Pacific Ocean.
- They found the source of the Missouri river, but once they reached the top of the mountain, Clark wrote, "I discovered immense ranges of high mountains still to the west of us, with their tops partially covered in snow." Now they very much needed horses.
- The next day, Lewis found the Shoshoni and convinced them to go and meet with Clark and the other part of the expedition.
- During the translation, Sacagawea realized that the chief was her brother, and he agreed to give them horses and had a Shoshoni man lead them over the Rocky Mountains.
- The expedition was now out of US land, but the explorers were determined to make it to the Pacific Ocean.
- The Rocky Mountain crossing was very difficult, and they nearly ran out of food
- Once over the Rocky Mountains, a Nez Perce tribe provided food and comfort for the explorers
- They were now heading downstream on the Colombia river, which took them to the Pacific Ocean
- They made camp in what is now Oregon, and stayed for a 4-month winter.
- In March 1806 they headed back upriver
- The return trip took only 6 months, thanks to Clark's new map
- 28 months gone (St. Louis to Pacific Ocean and back)
- 8,000 miles traveled



**Selway River Information**  
**Aaron Cavagnolo - 2013**

The entire length of the Selway was included by the United States Congress in 1968 as part of the National Wild and Scenic Rivers Act. The main stem of the Selway is 100 miles (160 km) in length from the headwaters in the Bitterroots to the confluence with the Lochsa near Lowell to form the Middle Fork of the Clearwater. The Selway River drains a 2,013-square-mile (5,210 km<sup>2</sup>) basin in Idaho County.

The Selway-Bitterroot Wilderness is a protected wilderness area in the states of Idaho and Montana, in the northwestern United States. At 1.3 million acres (5,300 km<sup>2</sup>) of the original 9 million acres of the wilderness act, it is one of the largest designated wilderness areas in the United States (14th overall, but third-largest outside Alaska). The Frank Church-River of No Return Wilderness Area is immediately to its south, separated only by a dirt road (the Magruder Corridor). Together with adjoining unprotected public land, the two wilderness areas form a five million acre (20,000 km<sup>2</sup>) wild region. The land ranges in elevation from 1,700 feet (520 m) on the Lochsa River to 10,157 feet (3,096 m) at Trapper Peak in the Bitterroot Mountains.

**Geology - Bitterroot Mountains**

sandstone, agillites, carbonates, quartz diorite intrusions, granite and rhyolite, metasedimentry some glaciers

**Vegetation**

Cascade Mountains decreased the rainfall in Idaho. Selway has some of the vegetation that needs more moisture - Western red cedar, western white pine, mountain hemlock, western hemlock, grand fir, white bark pine. Driest areas have douglas fir and ponderosa pine. Drier areas have douglas fir, grand fir and bear grass. Bitterroot (*Lewisia rediviva* Pursh) is a small, low plant with a pink to white flower. It is the state flower of Montana, United States. The plant is a low- growing perennial plant with a fleshy taproot and a simple or branched base. The plant grows on gravelly to heavy, usually dry soil, in scablands or foothills areas. It ranges in the north from British Columbia to southern California, and on the east side of the Cascade Range to Colorado and Arizona. The roots were consumed by tribes such as the Shoshone and the Flathead Indians as an infrequent delicacy. Meriwether Lewis ate bitterroot in 1805 and 1806 during the Lewis and Clark Expedition. The bitterroot was selected as the Montana state flower on February 27, 1895.

**Wildlife**

coyotes, cougar, lynx, bobcat, wolf, bear (black), moose, mountain goats, elk, mule deer, whitetail deer. Before 1927 (Lewiston Dam) - huge steelhead and salmon runs.

**Archeology**

graves of two early miners/trappers located at Deadman’s flat near forks of Moose creek. Died in 1894-95 winter of scurvy.



### Nez Perce

(Niimípu - “The People”) and Flatheads on western slope of the Bitterroot divide. Travel route up Selway via Bear Creek. But main routes to the north and south. Nez Perce began to use horses in 1730 causes Nez Perce to hunt buffalo as well as spend more time along moose creek. Indians had hunting and fishing camps at Ballinger and Dry Creek confluence as well as the Salmon hole on Bear Creek. Nez Perce had good relations with Flatheads and sometimes wintered together. No permanent villages in District. Nez Perce is a misnomer given by the interpreter of the Lewis and Clark Expedition at the time they first encountered the Nez Perce in 1805. It is from the French, "pierced nose."

This is an inaccurate description of the tribe. They did not practice nose piercing or wearing ornaments. The actual "pierced nose" tribe lived on and around the lower Columbia River in the Pacific Northwest and are commonly called the Chinook tribe by historians and anthropologists. The Chinook relied heavily upon salmon as did the Nez Perce and shared fishing and trading sites but were much more hierarchical in their social arrangements. The Nez Perce area at the time of Lewis and Clark was approximately 17,000,000 acres (69,000 km<sup>2</sup>). The Nez Perce believed in spirits called wyakins (Wie-a-kins) which would, they thought, offer a link to the invisible world of spiritual power. The wyakin would protect one from harm and become a personal guardian spirit. To receive a wyakin, a young girl or boy around the age of 12 to 15 would go to the mountains on a vision quest. The person on quest would carry no weapons, eat no food, and drink very little water. There, he or she would receive a vision of a spirit that would take the form of a mammal or bird. This vision could appear physically or in a dream or trance. The wyakin was to bestow the animal's powers on its bearer – for example; a deer might give its bearer swiftness. A person's wyakin was very personal. It was rarely shared with anyone and was contemplated in private. The wyakin stayed with the person until death. William Clark was the first American to meet any of the tribe. While he, Meriwether Lewis and their men were crossing the Bitterroot Mountains they ran low of food, and Clark took six hunters and hurried ahead to hunt. On September 20, 1805, near the western end of the Lolo Trail, he found a small camp at the edge of the camas-digging ground that is now called Weippe Prairie. The Nez Perce Nation currently governs and inhabits within the exterior boundaries of the reservation in Idaho.

### Flathead

The Confederated Salish and Kootenai Tribes of the Flathead Reservation are the Bitterroot Salish, Kootenai and Pend d'Oreilles (pronounced: “pond-oray”) tribes. The Flatheads lived between the Cascade Mountains and Rocky Mountains. The Salish (Flatheads) initially lived entirely east of the Continental Divide but established their headquarters near the eastern slope of the Rocky Mountains. Occasionally, hunting parties went west of the Continental Divide but not west of the Bitterroot Range.

**Crown of the Continent  
Jack Christiansen - 2013**

Hidden in crest of Montana and Canada's most beloved mountains, remains unique landscape crawling with biodiversity and beauty. The history of Native American presence is unmatched. And the geology that sculpted this topographical wonderland is truly breathtaking. Throughout history and into the present, the region of the Rocky Mountains known as the Crown of the Continent has proven to be one of the most captivating environments in the world.

Such a dramatic landscape lends itself well to a diverse ecosystem, most notably on the rocky mountain front, where the vast plains of the Mid West clash abruptly with the eastern edge of the Rocky Mountains. The plains waste no time gaining elevation as they rise sharply out of the earth. This 4,000 foot contrast between the peaks and plains provides wildlife with a full spectrum of habitat. Everything from bighorn sheep to peregrine falcons flourish here. It this unique landscape that allows grizzly bears to return to their natural environment. Here, the healthiest population south of the Canadian border ventures out of the mountains into the extending fens and eventually out onto the prairie.

Interestingly enough, this is the only place in Montana that habitates every species that existed when the Lewis and Clark Corps of Discovery came through Montana at the beginning of the 19th century. Though there are no longer bison herds in the millions, the Rocky Mountain Front is home to the second largest herd of migrating elk in the continental United States. Equally as impressive is the fact that this ecosystem boasts the healthiest populations of wolverines. Just as this landscape served this array of wildlife, it also provided for the Native Americans that hunted them as well. Though a number of tribes entered what is now known to as the Crown of the Continent to hunt and fish, the dominant tribe was undoubtedly the Blackfeet. Traditionally known as the Niitsapi, or "Real People," the tribe ruled the east side of the Continental Divide, from the North Saskatchewan River to the Missouri and Musselshell rivers. They referred to this area as "the backbone of the world," and thought of it as their own. Neighboring tribes were met with hostility as they tried to pass in order to hunt bison on the plains. Blackfeet fought off Kootenai, Nez Perce, Pend d'Orielle and Salish to the West, while battling Sioux, Shoshone and Crow to the East.

Mountains were revered as sacred to the Blackfeet, both in past and present. They were believed to be the creators of medicinal plant and holy animals such as wolves, eagles and grizzly bears. Sacred rituals like vision quests, were reserved to only a few mountains, among them were Two Medicine and Chief Mountain. Vision quests were performed solely by men, who would climb to a mountain top carrying only a blanket, sweetgrass and tobacco offerings. Here he prayed and fasted for four days and nights. On the last night his vision would come to him and he could then descend the mountain. Two favored vision quests sites were Chief and Two Medicine Mountain. Such a magnificent landscape demands recognition of a monumental force, be it spiritual or scientific.

The geologic history behind the Crown of the Continent is really what shaped this remarkable environment. Its beginnings stretch back over the course of 1.5 billion years. At this time, the same ocean that they now tower above covered the peaks that now stand nearly 10,000 feet high. This ocean's sediment transformed into layers of mudstone, sandstone and lime stone. A majority of the mountain building took place roughly 170 million years ago, with the catastrophic collisions of tectonic plates. Millions of years of stressing, folding and faulting followed. This resulted in overthrust geology, in which older rocks slide up and over newer rocks. But it was the last ice age that created the Crown we know today. 20 thousand to 11 thousand year ago, the continental ice sheet covered one third of North America. As the Ice Age ended and gravity took its course, massive glaciers carved out valleys and features that are prevalent in the park today. Currently only 27 glaciers remain, most of which have shrunk to half their size in the last 100 years.

Full of wildlife, beauty and history, the Crown of the Continent lives on as one of the most cherished landscapes in North America. Without it, Montana would be a poorer state, both in terms of economic and aesthetic value. Yet this protected land serves as model for what a healthy ecosystem should look and feel like.

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## Geology of the Middle Fork of the Salmon River region - Idaho

**Tess McEnroe -2013**

Geology in Idaho is diverse; for example, snow covered peaks such as the Sawtooth range near Stanley are only miles away from open, high and dry desert by the Snake River drainage. The largest wilderness in the lower 48 states resides in the state; the Frank Church-River of No Return, takes sprawls over 2 million acres of rugged, craggy cliffs made mostly of volcanic, metamorphic and sedimentary layering. This talk is to give a better sense of where we are and the geology we see around us.

Millions of years ago, Idaho was a flat, coastal plain on the Pacific Ocean. After the seas receded, a major uplift of mountains occurred in the area, creating what we are able to see today.

The Idaho Batholith is a common term you hear when talking about local geology. It is estimated to be about 100 million years old and made of Cretaceous granite. The beginning of the batholith was formed about 50 million years ago, when magma formed about 45 km under the surface of Idaho, which uplifted and created most of the mountains in Idaho. After millions of years of erosion, we are able to see the batholith in many places, but we're also able to feel the heat of the batholith still when we soak in hot springs during our river trip.

The Middle Fork was created largely by water erosion as opposed to glacial force. Within the last 100 million years, the rocks we see along the river corridor are a result of water activity and carving, and are mostly made of granite and gneiss.

**Salmon**  
**Heather Munn - 2013**

We will start with the life cycle of the salmon.

The female fish slam against the rocks on the river bed usually above a small riffle in the water. They are working to create a redd or a fish nest to lay their eggs. They choose a spot above a riffle because the turbulence of the water actually oxygenates the redd so there is constant air flow through the eggs. Once the female has made her redd it is up to the males to fertilize the egg. The male will be seen battling it out for the privilege of being the fertilizer. After a male is victorious he then fertilizes the eggs. (Sometimes even though a male has lost the battle he will still expel his semen to try to sneak in on some already fertilized eggs this doesn't work).

After about six to eight week incubation period the eggs hatch. These tiny little fish are called sac fry because though they are fish swimming around they are still attached to their egg sac. This egg sac provides them with vital nutrients while they are getting their river fins. After which they loose the sac and become fry at this point they are about 1-2 inches long. Chinook salmon spend 18-24 months in their home stream at which time a biological clock goes off and they make a break for the ocean. By now they have fattened up a bit and grown to a whooping 4-7 inches long and are now called smolt. The middle fork salmon have one of the longest journeys to the ocean in the lower 48 they travel between 500 and 800 miles depending on their spawning ground.

The smolt don't just turn fin and high tail it to the ocean they actual travel with their heads upstream. As they are doing this they are paying attention to everything from currents, temperatures and different landmarks to help them find their way home. This technique is called imprinting. The smolts journey to the ocean used to take 8-12 days, now however because of all the dams on the lower snake and the Columbia it takes these little guys up to five weeks to reach the ocean if they ever do. The damns have massive reservoirs before and after them so even if the fish make it passed the dam they are forced to try and navigate through warm stagnant water. Salmon are anadromous fish which means they can live in both fresh water and salt water. as they are traveling to the ocean their bodies and body systems are going through changes that make living in the ocean possible. The smolt has no way of adjusting this process to the length of time it takes them to get through all of the dams.

Once our little fish make it to the ocean they spend two years fattening up to be able to make their long journey back home. Salmon are vital to the mountain ecosystem a mountain steam begins sterile it depends on carcasses of salmon for the delivery of ocean minerals and nutrients. Animals and plants alike utilize those nutrients. Things that affect our salmon are of course dams, logging, the sediment from chopping trees down clogs up the redds so the salmon eggs suffocate before the fish are born.

**Charlie Norton**  
**Brett Pascoe - 2013**

Charlie Norton was one of the pioneers of the Salmon River. He was a miner in Custer County and an avid bear hunter, known to have taken down many bears with his good aim. He became known as the “Man of Nerve” after a hunting incident. One day Charlie was about 60 miles from Challis, hunting with only one other person. After Norton and his fellow hunter split up, he came across a bear, took aim and brought the bear down.

However, as soon as he had shot, another large bear (unnoticed by Charlie) right next to him stood up and struck Charlie in the face, breaking both of his jaws and crushing his face in. The bear continued to attack Charlie, tearing him up from head to toe, but eventually leaving Charlie still alive but inches from death. After a short while Charlie’s hunting partner found him and did his best to fix what he could for Charlie before heading the 60 miles back to Challis to acquire help.

When the hunting partner returned with help, Norton was still alive, but covered in flies and maggots. The helpers reported having removed a quart of maggots from Charlie’s face, before they got him back to camp. Charlie was carried the rest of the way back to Challis, in a sling between two horses. The doctor taking care of Charlie said that he did not think he would ever recover, but fixed Charlie as best he could; including taking off Charlie’s lower jaw. Charlie had to have a hole cut into his neck so that he could eat and drink, while he waited for his face to heal. Unfortunately by the time his face healed, he found that the hole in his neck would not close. So Charlie went to the hospital in Salt Lake City, to have the hole in his neck closed with silver wire.

And as if Charlie did not have enough medical problems already, now the contraction of the muscles in his face caused his mouth to close, so that he was not able to open it to eat. Leading to his mouth needing to be cut open when he wanted to eat. Every short while his mouth would close up, and again he would need to have an operation to have it cut open. But Charlie was not one to sit around and do nothing, so he eventually went out on a hunting excursion. During the trip his mouth closed and so Charlie asked his companions to cut open his mouth. But none of his companions would, so Charlie ended up cutting it open himself.

As time went on, Charlie had developed cancer in his face. He had to have it removed 4 times before dying at the age of 65. All of Charlie’s hospital procedures were always done without the use of any kind of pain medications, which was insisted upon by Charlie himself.

## Removal of the Four Lower Snake River Dams Carina Stavish - 2014

The documentary, *Damnation*, gives compelling evidence for why many dams that once supplied electricity and flood control are now “deadbeat” and doing more damage than good. According to the National Hydropower Association, only about 1,750 of the 80,000 dams in the United States produce hydropower today. Not to mention many of the dams have been deemed dangerous and repairs would cost more than demolition. Also, at this day and age electricity needs can be met more effectively using other power sources.

Though dams were once the answer to America’s problems, the environmental issues that they impose are now getting more and more apparent. Dams disrupt the natural migration patterns of native fish, disrupt the movement of sediment and nutrients, destroy wildlife habitats, damage coastal estuaries, and rob surrounding forests of nitrogen.

The message that dams are detrimental has spread and initiated the removal of 850 dams in the past 20 years. One success story is the Elwha River on the Olympic Peninsula in Washington. Two hydroelectric dams had been built and caused devastating environmental costs. Though these dams once helped to accelerate economic growth and development of the region, in the past years they provided very little hydropower, disrupted the flow of sediments, and interfered drastically with salmon migration. The population of salmon once reached 40,000 returners, which dropped to less than 4,000 fish returning to spawn. After the dams demolition, the increase in returning salmon was celebratory and many made their way past the dam site to spawn. Removing this dam also revived the supply of salmon to the Lower Elwha Klallama tribe who greatly suffered due to the dam.

The Snake River in eastern Washington is where four deadbeat dams reside. The dams by the names of Lower Granite Dam, Little Goose Dam, Lower Monumental Dam, and Ice Harbor Dam have collected about 3 million cubic yards of sediment per year. To combat this unfortunate result from the dams, towns around them, like Lewiston, Idaho, have developed a system of levees. Though the intention was to keep water levels at least 5 feet below the tops of the levees, now the water levels are 2 feet below and still rising and the sediment levels are too high for dredging to be effective. The options remain to increase the height of the levees and further cut the town off from its river or remove the dams.

There is a large recognition that these four dams are harmful and outdated. The *Damnation* film states that, “federally operated dams cost taxpayers millions every year, degrade water quality and impede salmon migration to and from the healthiest habitat remaining in the lower 48 states, while providing no flood control and little irrigation.” The Snake River once received up to 30 million wild salmon and steelhead every year. Now every Snake River salmon stock is on the endangered species list or extinct.

It is important to understand the cost that would take place from removing the dams. Idaho would have to replace 1,500 megawatts of electricity with solar, wind, and geothermal forms. The state would need to invest in railroad systems that could replace the need for a barge system. Lastly, those with agricultural interests would need to be able to extend the pumps and pipes used to irrigate crops to reach the reservoirs.

Removal of these four dams is the only viable option. The benefits of dam removal outweigh the costs. Taxpayers will no longer have to pay the continual costs of maintaining and operating the dams as well as funding efforts to make the dams less lethal to the salmon. The salmon population will flourish. There will also be an increase in fishing and recreational opportunities throughout the Northwest and people won’t be blocked out by levees. Removal of the dam would also restore salmon levels to meet the treaty rights that were established between the Native Peoples and the U.S. government, reviving the local tribe’s livelihood.

**Moose Creek and the Selway River  
A Brief History and Stories from the area  
Billie Prosser – 2015**

Moose Creek is a major tributary of the Selway River, almost doubling the volume of the river and picking up much gradient below this confluence. Up Moose Creek where the North and East branches merge was originally referred to as Three Forks by the early USFS. There have been cabins in this greater area since the late 1800's, eventually homesteads and the Moose Creek Ranger Station now located at the confluence with the Selway River.

The USFS first used a cabin at the Three Forks Confluence that became known as "The Scurvy Cabin" after three ill-fated trappers in the winter of 1894-95 experienced harsh and troubling events. The trappers, Will Blair (aka Jack Craig), E.A. Wheeler, and John Shean from Hamilton, Montana moved to the forks of Moose Creek and built the cabin to live in while hunting and trapping over the winter. After finishing the cabin things went well for many weeks with prolific fishing, hunting and trapping. In May of 1895 Will Blair found his way back to Hamilton. He claimed to have buried his other two partners that had passed away due to scurvy. Also there was the loss of two dogs and eleven horses. The authorities suspected foul play at first and returned to Three Forks to exhume the bodies. They found Blairs story to be correct and reburied the men. Their graves are still visible if you visit this area known as "Dead Man's Flat".

Three Forks was eventually divided into five private homesteads and the Moose Creek Ranger station was moved to it's present location between the confluence with the Selway and Moose Creek around 1921. Over the years ownership of the homesteads at Three Forks was bought and sold many times. In 1944 Bert Zimmerly Sr. bought a parcel from Mary Ellen Dodds and Created Moose Creek Ranches Inc. Other friends of Berts also became interested in the other parcels at this time. Joe Rozenkranz acquired two of these properties and Tom Kiiskila one parcel. Together the four homestead plots were operated and developed under Zimmerly's Moose Creek Ranches Inc. Many cabins, a lodge and the airstrip were built or upgraded to accommodate commercial ventures in hunting and fishing. The guests frequently came by plane, but other options were hiking the Selway river trail on foot or by horse back.

Then came the Disappearance of Rozenkranz... On October 24, 1948 Bert Zimmerly took off in a Stinson loaded with game meat and headed for Lewiston, Idaho. He had to keep the Stinson flying low along the Selway as the weather was turning foul and it was getting dark. About 45 minutes after Bert left, Rozenkranz also flew away toward Lewiston in his personally owned Stinson 108 with a passenger W.J "Buck" Bolick. Bolick was an electrician from Lewiston who was hired to wire the new hydroelectric dam being planned above the homesteads. The following morning pilot Dick Wagner flew a plane full of hunters to the ranch from Lewiston. In a casual conversation with other at the lodge they asked what time Rozenkranz had made it back to Lewiston. When Wagner confirmed that he had not arrived a search party was immediately launched. The area was combed below the Confluence and in total 150 landings by search plane were made in the attempt to find the two men.

Interestingly, Rozenkranz was running for the Idaho State representative seat in Nez Perce County. During the time of his search he won the election for the Democratic Party. As time went on with no leads, the gossip by the newspapers created many tales of lore. Moose Creek Ranches were known for a "good time" with lots of hard drinking and high stakes gambling. Some thought that perhaps Rozenkranz had a large amount of cash in his airplane. One legend told of the the plane being found and the money looted. Many plane crashes along the Selway were found throughout the 50's and 60's but none of them was the Stinson 108 piloted by Rozenkranz. Then in April of 1987 a former employee of the Nez Perce NFS was antler hunting and found a plane wreck up Glover Creek, a lower tributary of the Selway. The aircraft identification tags were removed and remains of the bodies were positively identified as Rozenkranz and Bolick. In June of 1966 then owner Ken Christensen sold the Ranches to the USFS for \$209,000 where it was decommissioned and burned. Little remains this day.



**Moose Creek and the Selway River  
A Brief History and Stories from the area  
Billie Prosser – 2015**

In the early 1930's the new Moose Creek Ranger station became the testing grounds of the Forest Service's newly established Smoke Jumping program to combat wildfires. Much training and the first missions were tested here. Around this time the airstrip was upgraded and by 1936 finished making it hugely popular with the public and a good way to move around USFS employees. As usage continued to increase with the fire suppression crews and public a new and longer cross airstrip was engineered in the mid 1950's. It remains one of the most stunning backcountry airstrips and in 1990 was listed on the National Register of Historic Places. The airplane camping facilities were also upgraded not long ago and in keeping current with backcountry ethics all of the fire rings and picnic tables were removed.

One humorous story, before the upgrade of the airplane camping facilities, involved the Hollywood actor Harrison Ford. For many years Ford and his buddies had flown themselves into Moose Creek to what they called a "backcountry safari". The owner of several aircrafts, Ford often piloted himself in a two-tone green and yellow de Havilland Beaver. A USFS employee from up at the Ranger Station happened on their camp one day and noticed they had taken all of the picnic tables from other camp areas to their own. She was unimpressed with their lack of wilderness ethic and gave them a stern lecture on the rules after which they returned the tables. Then later in the evening the group ran out of drinking water. Ford fired up his Havilland instead of walking up to the water station to fill his containers, then taxied back to his camp. This really went over badly with the USFS women and she gave Ford a piece of her mind. He later apologized for not respecting the unwritten wilderness rules and a few days later had flowers with a card to say how sorry he was flown into the Ranger Station for her. She still remained unimpressed in the end.

The confluence of Moose Creek and the Selway River has a long rich history. It does seem the airstrip has fostered many of these tales. Today many enjoy rafting down to one of the nice river camps, flying into the airplane camp and slinging a hammock among the trees, horse packing or hiking along the Selway river trail. There are amazing hikes to the Shissler lookout tower or up the rivers in search of amazing fishing opportunities.

**Sheepeters and Pit Houses of the Middle Fork**  
**Skyler Murphy - 2015**

Along the banks of the Middle Fork Salmon River there are the remains of the homes of the American Indian people called the Tukuduka, or Sheepeters. The Tukuduka were and are Northern Shoshone, members of the Shoshone-Bannock Tribe whose tribal offices are located on the Fort Hall Reservation near Pocatello, Idaho.

Bands of Tukuduka would often remain to winter along the banks of the Middle Fork and its tributaries. Hunting, fishing and gathering enough through the warm seasons they cashed dried meat, fish, berries, and roots near winter camps. Those families living along the Middle Fork built semi-subterranean “pit houses” on sandy river terraces, collecting driftwood from the river's edge for their winter fires. Pit houses were dug into the earth anywhere from several inches to several feet. A simple roof structure and occasionally low walls were then built over the excavation. Roof structures were built out of branches and sticks and then covered with an earthen mound. Fires were often built in a central hearth to provide light and warmth. A ceiling vent through the roof would allow for ventilation. The true ingenuity behind pit houses is the insulation provided by the earth. Digging into the earth and covering the roof with earthen mounds allowed the Tukuduka people to harness the natural insulation of the earth. The earthen walls provided a thermal mass, which reduced heat loss, and to easily maintained a steady indoor air temperature. This helped to keep the pit houses cooler during warm summer months and, more importantly, warmer during cold winter months. Besides providing a thermal mass to insulate the interior structure, the partially submerged structure of the pit houses helped to minimize exposure to winter winds and snows. Over all, the pit houses were a surprisingly efficient dwelling for thermal control.

Pit house camps along the Middle Fork were generally composed of multiple small family units. Occasional gathering or community units would be constructed at select sites where a larger pit house structure would be constructed to support gatherings. Camps were generally located at large flat terraces along the riverbanks and often on the sandy deposits along the interior of large meanders. This not only provided softer soil for easy excavation, it also often placed these encampments at calm stretches of river where fishing would be easily accessible. Hunting generally happened away from the camps where men would often construct smaller excavations to use as blinds for waiting for game. The one disadvantage provided by the construction of these structures in relatively soft river deposit soils was the longevity of the structure. Pit houses would generally have to be reconstructed or abandoned every couple years because of the erosion of the walls.

Today, there are hundreds of pit house sites along the Middle Fork, although many would be unnoticeable to the untrained eye. There are several sites that are located within frequented camps. These camps include Pungo Creek, Lower Jackass, Cameron Creek, Rock Island, White Island and Cow. At these camps the remnants of the pit house structures appear as subtle, rounded depressions constructed in a clear grouping. It is incredibly important to be mindful of these cultural sites to preserve the heritage of the Tukuduka people. The Tukuduka people, now represented by the larger Shoshone-Bannock Tribe, have recently expressed concern about the deteriorating condition of these sites due, in large part, to impact from recreational visitors. With approximately 10,000 people floating down the Middle Fork each year, special care must be taken to protect and preserve these sites to preserve the heritage of the Tukuduka people.

**Polly Bemis (9/11/1853-11/6/1933)**  
**Kelley Pascoe - 2015**

Lalu Nathoy was born to an impoverished farming family in Northern China in September of 1853. When Lalu was a young girl it was rumored that a notorious tribe of bandits was headed toward her small village. In preparation for the attack, Lalu, her mother, and younger siblings ran to the basement to hide while her father remained in the family house so as not to arouse too many suspicions. Once in the basement, Lalu realized she had forgotten the sweet potatoes and ran out of hiding. Her father scolded Lalu as she raced back into the kitchen. It was then that the bandits arrived, forcing Lalu to crouch and hide behind the family stove. Lalu continued to hide as the bandits entered her home and began yelling at her father. The leader—coincidentally a man who used to be a farm hand for her father in a more prosperous time—noticed Lalu’s muddy footprints, revealing Lalu herself. The bandit offered two bags of seed in exchange for Lalu and her father, thinking of the rest of his family and the famine they were experiencing, accepted.

Lalu traveled with the bandits for two weeks before they sold her into the slave trade between China and the U.S. Lalu was smuggled onto a ship and arrived in San Francisco in 1872. Shortly after her arrival, Lalu was renamed Polly and was sold for \$2,500 to Hong King in Warren Idaho. It was customary at the time for Chinese men living in the United States to showcase their social status through the number of wives and/or concubines they had. If a man was married before he immigrated, it was also common for him to leave his wife at home in China to take care of his family and then acquire one or multiple concubines once in the U.S. Polly was taken to Warren, Idaho via Portland, Oregon via horseback. Warren at the time was a mining camp and primarily white. In Warren, Polly was not only King’s concubine but also a worker in his saloon. Severely unhappy, Polly saved every penny she earned in tips or that she found after patrons had left in an attempt to buy her freedom. She attempted to buy her freedom twice from Hong King, but was rejected each time, Hong King stating that she was a slave and couldn’t afford her freedom even if given the option. Polly had caught the eye of Warren local Charles Bemis. Bemis owned a nearby saloon and won ownership of Polly in a card game with Hong King.

Polly continued to live in Warren with Charles Bemis and ran a boarding house for miners and travelers passing through Warren. Legally, Polly was still not a free woman (Bemis owned the boarding house), and often struggled with racial tensions from travelling miners. Polly was well known and loved around town, especially for her warm demeanor and her ability to care for and connect with children. The relationship between Polly and Charlie grew over time. Charles was shot in the face while napping in the back of his saloon by a drunken miner who owed Charlie from a previous nights card game. Polly took Charlie into her care calling in doctors from both the eastern and western medicine specialties. Charlie wavered in and out of consciousness, the infection spreading. Both doctors unable to do anything further, Polly was left with Charlie. In a moment of desperation, Polly took her crochet hook and dug into Charlie’s face removing more of the lead bullet fragments. It was this act that saved Charlie’s life. He recovered days later. Charlie proposed to Polly, she said no, stating that she still wished to be a free woman and not under the control of any man. Polly also avoided marriage because she didn’t want to give birth to a biracial child who in her mind would never be a full American citizen due to their Chinese heritage and phenotypic features.

**Polly Bemis (9/11/1853-11/6/1933) - Kelley Pascoe – 2015**

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Polly and Bemis were married four years later in August of 1894. Racial tensions hit their height when two Chinese men were found dead, hanging from a tree outside town with a warning to local Chinese. Charlie and Polly moved from Warren to the Salmon River in 1894, filing a mining claim only several miles from the banks of the Main. Their small piece of property became known as Polly Place or Bemis Point. Charlie and Polly continued to live along the Main Salmon until both of their deaths. They were a stopping point for miners and travelers. They were also known for raising a pet mountain lion, “Autumn”, whom Polly raised from an abandoned cub. Polly was known throughout the Main Salmon corridor for her persistently abundant garden, nursing skills, and home cooking.

Charlie fell ill with Tuberculosis and was bedridden for the last year or so of his life. In 1922, at the height of his illness, the Bemis house caught fire. Polly, smelling smoke, ran back to the house, up the stairs and dragged Charlie down the stairs and out of the house. Charlie died shortly after the fire. Wrecked with grief, Polly moved back to Warren, unable to stomach living along the river without Charles. The across the river neighbors, Peter Klinkhammer and Charlie Shepp rebuilt the Bemis household in the exact same spot for Polly with the understanding that when she passed, they would inherit the property. Klinkhammer and Shepp also had a phone line installed so that they could easily care for Polly in her old age. Before returning to the Main, Polly took a trip to Boise where she rode her first streetcar, saw her first movie, and took her first elevator ride. In 1924, Polly moved back to Polly place.

Shepp found Polly on the ground, unresponsive and incapacitated from a stroke in 1933. She was taken two days later to a hospital in Grangeville, Idaho where she remained for three months. Polly had her shoes kept at the side of her bed, insistent that she was going to use them again when she returned to the river. Polly never made it. She died of heart failure at the age of 80 in Grangeville where she was later buried.

The Polly Bemis Ranch was added to the National Register of Historic Places in 1988. Polly was also inducted into the Idaho Hall of Fame in 1996. Her story can now be found in *Thousand Pieces of Gold* and has also been made into a feature film.

**Sheepeater Indians**  
**Heather Munn, 2015**

Resided in middle fork corridor from 800 years ago until 1876 (sheepeater war). Excellent hunters they used 2 brains for every one hide that they tanned making them very impressively dressed. Not only impressively dressed they were also known for their basket weaving abilities. They used every part of the animal they could, brains for tanning meat for eating and horns from sheep to make bows for hunting. Also called the salmon-eater Indians depending on the time of year observed. Semi-nomadic people, moved throughout the corridor based on food availability. They did not remain in family groups moved around with individuals that were most beneficial to the current situation. They did not gather in mass for religious ceremonies. Areas where large groups were commonly seen, confluence of MF and Main, Clayton Idaho, Yankee fork of the salmon area. They would dig into the ground and build roofs and walls around a pit, called pit dwellings. Two different types of dwellings in fields/on benches were considered home, in talus slopes or hillsides were considered hunting blinds. The Sheepeaters domesticated dogs in a way to help with hunting and help carry things when moving. The dogs would isolate prey so that the hunters could kill it. They also crafted a sled to be pulled by the dogs. They did not use horses. Are considered part of the northern Shoshone bannock tribe, Shoshones to the south used horses but there is no evidence of the Sheepeaters in the MF corridor using horses. The Sheepeater war lasted one year. It was started in 1876, when 4 escaped Chinese slaves were found dead. their deaths were blamed on the Sheepeaters and war commenced. The Calvary came to the MF corridor to eradicate the Sheepeaters with hopes of being able to claim the MF for themselves to begin mining. The Calvary was at a distinct disadvantage when they showed up with horses. The terrain being as rugged as it is proved to be very difficult for horses to navigate and many men and stock were lost. There was no evidence that the sheepeaters ever attacked without being provoked. At the end of the "war" only 52 Sheepeater were removed from the MF corridor. Relocated to different reservations such as the one in Blackfoot ID.

## The Big Burn of 1910 Tanner Welch - 2015

The spring and summer of 1910 were remarkably hot and dry. The newly established National Forest Service (now called the United States Forest Service) had only been around for 5 years. Underfunded and young, the rangers were often ill regarded or even despised by the locals of the rough and tumble towns of the west. Often the only lawmen around, they were frequently charged with policing small mining towns. With millions of acres of newly protected National Forests covering large swaths of America's northwest, some rangers were single handedly responsible for monitoring thousands of acres.

With the dryness of spring and early summer, wildfires sprung up early in 1910. Fires were ignited by embers from locomotives, lightning strikes and even controlled burns. By mid-August there were 1,000-3,000 fires burning in Washington, Idaho, Montana and British Columbia. The Forest Service had nowhere near enough men to battle the blazes. They sought out any man willing to aid in the firefighting. Migrant workers from Italy, Greece and beyond had come at the promise of paid work mining but found themselves fighting fires instead. Rangers recruited at brothels and bars and even freed prisoners to fight the flames. The Forest Service promised 25 cents an hour. This was more than the average American was making at the time mining, building roads or laying railroad tracks. But men were reluctant. They understood the dangers of mining but not the mysterious dangers of wildfire.

On August 20th a cold front brought hurricane force winds through the northwest. The many small fires united in one or two giant blazes. Any hopes of fighting the fires were smothered. Over the next two days three million acres were burned to the ground. Temperatures reached 2,000 degrees in the heart of the firestorms. 87 people were killed. Although not the deadliest wildfire in U.S. history, it is believed to be the largest.

Several towns were completely destroyed. Falcon and Grand Forks Idaho perished. In Montana, De Borgia, Haugan, Henderson, Taft and Tuscov were all destroyed. A third of Wallace, Idaho was burned causing one millions dollars in damage in today's currency.

As the danger had escalated and the lack of resources had become clear, President Taft had ordered the "Buffalo Soldiers" of the 25th Infantry to help. They were critical in the successful evacuation of the town of Avery. Upon a failed escape themselves, they stayed and successfully defended Avery from the flames. Many miners in the area had never seen a black person before. Racism was rampant and the soldiers of the 25th were often mistreated. After their heroism in Avery news spread that they were some of the bravest and most honorable men to ever fight a fire.

Ed Pulaski narrowly escaped death fighting the fires outside of Wallace. He hurried his men down the mountains and into an abandoned mineshaft. In the scramble through the fire, the men's boots were burned off their feet. They huddled in the back of the cave but the smoke got so bad that the men lay on their bellies breathing through the mud on the floor. Many of them died from smoke inhalation. In the desperate effort to survive one man ran from the tunnel to escape the smoke only to be burned alive. Pulaski drew his pistol and exclaimed he would shoot the next man to leave the cave. As the fire passed over the entrance, the support timbers of the mine shaft caught fire. Pulaski heroically extinguished the flames and blocked the entrance with wet blankets. Eventually his blankets all burned and so did his hands and face. He continued to fight the flames until he passed out. During the ordeal he lost vision in one eye.

Leading up to this astounding fire, the Forest Service was uncertain on its stance on wildfires. It was debated whether they ought to be fought and extinguished or allowed to follow their natural course. After the big burn it was solidified as necessary to fight and control all wildfires. This policy has persisted as the norm in the United States. Rather than allowing small wildfires to burn through a forest every few years, we have been extinguishing them. There are now major swaths of land that have not been allowed to burn in over 100 years. So presently, with all the fuel that has accumulated, when this land does ignite, it burns so ferociously that we can't effectively fight it. The recent Rim fire along the Tuolumne is a remarkable example of this. Basically all the fires small enough for us to put out, we shouldn't. Only now are we realizing our mistakes...

**Elk (*Cervus Canadensis*)**  
**Jack Christiansen - 2015**

Though the name elk is often applied to moose in parts of Europe, the two animals should not be confused with one another. European settlers noticed the similarities between the red deer of their homeland and the moose of North America in what we now know as elk, adapting their own languages to this unique species. Known to the Shawnee tribe as Waapiti because of their white rump, the animals have served as a valued food source to Indians and Westerners alike. Native to North America and Asia, elk are believed to cross the land bridge stretching from Russia to Alaska some time in the Pleistocene, or in between periods of glaciations.

Mature elk cows average about 500 pounds while males are typically about 40% heavier, weighing roughly 700 pounds. The largest subspecies of elk, known as Roosevelt, often reach 1200 pounds. Of that weight, up to 40 pounds can be attributed to a males' antlers, which are shed annually come winter. As the mating season comes to a close and a bull's testosterone level drops suddenly, so do its antlers. When the antlers begin to grow back in the spring, they often return at a rate of 2.5 centimeters per day.

A cow's estrus cycle is a short one, usually lasting no longer than a day or two, and involves several attempts. Competition between bulls for a female partner at this time becomes violent. Females are eligible to mate after only two years, and give birth in the following spring, usually to one, but occasionally two calves. When calving they tend to remain isolated from the main herd, but return after a few months.

The predators that pose the greatest threat to elk, especially cow-calf pairs, are wolves and cougars. Though black bears will often prey on young offspring, they are no match for a mature bull elk. The lifespan of an elk is generally 10 to 13 years depending on the numbers of predators. Contrary to popular belief, the number of points on a bulls set of antlers is not indicative of its age, though it does show superior genetics and dominance within the herd.

As the snowline rises up the mountainside in the spring, elk herds follow. Though hunting in the fall also affects migration routes, elk are creatures of habit, tending to frequent certain drainages that offer protection from the elements and predators alike. Elk feed on grasses and tree bark, primarily during the morning and late afternoon, and tend to be still at midday.



**Cliffside Rapid, Henry Weidner, and the First Descent of the Middle Salmon**  
**Alexander Davis - 2016**

Just around mile eighty-eight on the Middle Fork of the Salmon, the river bends sharply to the right at the base of a sheer rock face. It doesn't look like much from upstream. The water above the bend moves slowly but continuously toward the rock wall on river left. Yet, as the bend approaches, the gradient steepens, and the water begins to tumble quickly toward the left shore. At around two feet, the water is shallow at the entrance. Boats must enter far left before starting to move toward the inside of the bend. Once a boat enters the channel, the rest of the rapid reveals itself. Water cascades into the left wall, creating ducky-flipping lateral waves, and threatening any swimmers with a rough swim against undercut rocks.

Most guide books and most river guides call this rapid "Cliffside," which makes sense since the waves form from water crashing into a rocky cliff. But Cliffside is the modern name for this rapid. Originally, way back in 1932, a USGS team named this particular bend in the river, "Weidner," in honor of Henry Weidner who had made the first documented descent of the Middle Fork of the Salmon just six years earlier in 1926. Weidner's story is at once fantastic, tragic, and representative of the archetype of the American pioneer.

Born near the turn of the century in the Midwest, Henry Weidner moved to Idaho in the early 1900s to seek his fortune. His was a restless spirit, always seeking out a new project or business venture, and rarely discouraged by obstacles along the way. He settled initially near the Payette River where he met his wife Hallie, built a house, and started a beekeeping business that eventually sold honey throughout the state. He lost sight in one eye from a shard of metal while driving in a nail. No matter; he used a glass eye, and continued to develop the business. He sent his honey as far as Spokane, and trucked lumber back to Idaho to recoup his costs. Told he couldn't haul lumber without a trucking license, he started a trucking business and a motor dealership, selling European built trucks. By all accounts the Weidner family flourished in these years.

While running his honey and trucking business, Weidner pursued other passions: photography, filmmaking, and river-running. He became an expert on photographing landscapes and animals. In 1911, at age 23, he built his own sweep boat and took 3 months to run the Main Salmon from Salmon City to Riggins. It was on this trip that he first glimpsed the Middle Fork and began to ponder the possibility of pursuing an exploratory venture. The idea wouldn't become a reality for another fifteen years. In the meantime, he experimented with other types of boats, taking a fourteen footer down the Snake River and the Main Salmon (again) in 1921, all without major mishap.

In 1926, Weidner decided to try to descend the mighty and mysterious Middle Fork. Up to then, there were no confirmed descents of the river. Weidner, ever industrious and optimistic, saw an opportunity for a new business venture: creating a feature film documenting a trip down the river. He recruited his sixteen-year-old son Wesley, a prospector named Roy Herrington, and a rancher named Harold Mallet to take two eighteen-foot long canoes down Marsh Creek at the headwaters of the Middle Fork in Bear Valley.

The principal aim of the trip was to film and photograph the animals of the Middle Fork. It was slow, dull work. The men set out salt licks to attract game, and spent hours waiting in blinds for the animals to come. The work took a psychological toll on the other members of the team, but Henry Weidner was obstinate. They spent 10 days at Pistol Creek photographing animals only to lose part of the reel in an eddy further downstream. Eventually, at mile 75, Roy Herrington, frustrated with the slow pace, abandoned the trip, and made his way back home to Fruitland.

The rest of the group passed through Impassable Canyon (and the rapid that would bear Weidner's name) without incident, emerging at the confluence with the Main Salmon with 3,000 feet of used film and 1,000 feet leftover. Henry persuaded Mallet to take the used film to Salmon, while he and Wesley continued down to Riggins to shoot the rest. Later in 1927, Weidner and his son shot more film by lining boats up the Middle Fork from the confluence.

Eventually the work culminated in a one-hour feature film called *Trip of a Thousand Thrills* that opened in cities throughout Idaho and the West, in addition to Chicago and Philadelphia. At first, the profits came rolling in, and it seemed like the first descent of the Middle Fork would be a major point of pride for the Weidner family. But they soon became overextended as theater owners imposed restrictive contracts, and the Weidners began to lose money. To add insult to injury, Harold Mallet, one of the original members of the expedition, sued over lost profits from the film he had helped to create. Mallet won in court, and Weidner was forced to pay a settlement. The experience drove Henry Weidner out of the movie business and left him with a bitter taste about the whole experience. Henry refused to watch the film again, and disposed of the family's last copy. The family returned to beekeeping, and ran a successful business until the late 60s.

While *Trip of a Thousand Thrills* was mired in legal trouble around the time of its release, the film documents the earliest known descent of the Middle Fork from its headwaters in Bear Valley to the confluence with the Main Salmon. In essence, Weidner started a trend that continues today, whereby rafters make their way down the canyon to see and document it in its natural state. The fact that he and his companions did it without modern-day conveniences like fleece, Gore-Tex, or a down sleeping bag, makes the feat all the more impressive. It comes as no surprise that members of the USGS team that in 1932 surveyed the bend at mile eighty-eight on the Middle Fork, decided to name the rapid "Weidner." To be sure, he and his other companions earned the right to such recognition.

Source:

Conley, C. and Carrey, J. (2003). *The Middle Fork: A Guide*. Backeddy Books.

**History of the Selway Lodge and its Occupants**  
**Billie Prosser, 2016**

**The Early Years:**

1898 William Wylie and Frank Harsh build a cabin and run a cattle operation there becoming the first occupants of what is now known as the Selway Lodge. Henry Pettibone, also in the cattle business, eventually acquired the property and in 1919 would receive approval to homestead there on 91.02 acres. At first he partnered with his relative, George Shissler (Shissler Peak Lookout is “above” the Moose Creek Ranger Station), although by the winter of 1916 - 1917 it had dissolved. Henry’s brother Rufus moved in with him and they made many enhancements to the property. Due to failing health Henry Pettibone decided he would sell his ranch to Alvin Renshaw. In 1931, at the age of 73, Henry set out to permanently leave Selway Country. On the way to the newly constructed airstrip down river at the Moose Creek Ranger Station he suffered a fatal heart attack near the Bear Creek Ranger Station, just a few miles downstream of his home. It seems he could not leave the country he loved so much and was buried above his homestead overlooking the land he had tended to for so many years.

**Alvin Henshaw’s 51 Ranch:**

In the spring of 1932 Alvin Renshaw packed in his family along the Selway River Trail to their new homestead. After buying two packstrings from the going out of business Decker brothers he acquired the brand name, “51”, and decided to rename the ranch from Pettibone Ranch to 51 Ranch. Renshaw finished a new home and modified the existing Wylie and Pettibone structures. With the completion of the nearby Shearer Airstrip in 1934 customers could fly into one of the most remote places in the lower 48, and by 1937 The 51 Ranch had become premiere destination hunting and fishing location. Building this thriving ranch required much outside help and Renshaw was known through the depression era to house many a young man in exchange for a hard day’s labor.

Alvin and his wife Elna ran a successful business and enjoyed their lifestyle for many years, all while raising 5 children on the property. By 1948 the Renshaw’s had developing health problems. Alvin was having back problems and Elna became ill with tuberculosis. Although their son Jim wanted to buy the family business he was too young at the age of 16, and could not see a viable future for himself. The family relocated to a large property off the Middle Fork of the Clearwater by Suttler Creek. In 1949 Alvin was accidentally shot while on a hunting expedition and died of his injury. His children carried on his passion for the outdoors. A daughter, Jean, wrote a memoir called I Never Felt Poor Except in Town; Selway Saga 1932-1948. His son Jim went on to be a professional outfitter in the Selway-Bitterroot until retiring in 1998. He worked early on his career for Carl Coons, who had bought the the Renshaw family’s 51 Ranch. Another son Allen worked several years for the USFS as an aerial observer for fires and also for his older brother Jim’s outfitting business.

Carl Coons lost the 51 Ranch shortly after the purchase from Renshaw to his wife, Irene Shields, in their divorce. Irene continued to use the newly named Selway Lodge and leased it out to various outfitters. In the fall of 1952 Frank and Minnie Wilson leased the lodge and hired Jim Renshaw to help with their outfitting. By August of the next year he was married to their daughter, Darlene.

**Selway Lodge: Sid Hinkle, Airstrips and Pilots**

Sid Hinkle, of Redding California, bought the Selway Lodge from Irene in 1958. He learned of the property from Loren Hollenbeak, who owned a property on Big Creek of the Middle Fork of the Salmon. They were both involved in logging operations in California although Hinkle’s main line of work was the family’s oil business, E.B. Hinkle and Son. They owed several gas stations, bulk plants, and a trucking operation. He sold the family business and moved to Grangeville, Idaho with his wife Mae where they operated the Elkhorn Motel.

It was later in life when Sid learned to fly from a former employee, Frank Wolfe, who was a retired Air Force Colonel. He enjoyed the aspect of flying in and out of the lodge very much and had a love for planes. He had a D2 Caterpillar flown into the Shearer airstrip where it was used to repair an old wagon road to the lodge and then to build a 1400 ft runway on the Selway Lodge property. Hinkle owned a Cessna 182A that he flew in and out of the new landing strip, then upgrading to a Cessna 185 in 1961.

This became his airplane of choice to fly into the Selway backcountry and he was believed to be a fine pilot by many. He drove a CJ5 Jeep from Redding to Granville were it was disassembled and flown into the Selway lodge piece by piece. Some of the parts were cut with a torch and rewelded back together upon arrival to the Selway after which it was often used to drive between Shearer and Selway Lodge.

During his ownership Hinkle hired several outfitters and many of the clients were booked at the Elkhorn Motel in Grangeville. One of Sid’s better known guides, Gene Alford of Redding California, shot one of the largest cougars ever taken while living at the Selway Lodge in 1961. Later in 1988 on a hunt in the Selway Lodge area he beat his previous record by taking the second largest cougar to date recorded with the Boone and Crockett Club.

**The Selway Wilderness Ranch Inc.:**

The next owners were a group of people including Rolla Briggs, Robert Hall, Dick Waite and Bill Guth Sr. whom bought the Selway Lodge in 1964 from Hinkle. They then offered shares of the lodge for sale under the name Selway Wilderness Ranch, Inc. Briggs and his wife lived there for the next 3 years all year round and managed the outfitting and guiding services in the fall hunting seasons. The group felt that their airstrip had limitations for the type of plane that could land, so often used the upstream Shearer Airstrip to land larger aircrafts. With mounting pressure from the USFS to stop using the Shearer Airstrip the group decided to expand on the airfield. Using the D2 they had to move one building towards the river then cut an uphill dogleg to the south near Pettibone's burial site. This work brought the total length of the runway to 2000 ft. They also improved and updated many of the existing buildings and added water, propane, and other amenities.

Their overall masterplan was to subdivide part of the property into forty plots that were 1/4 acre cabin sites for resale. Their plan was not executed due to the fact that some of the owners could not afford the operating and expansion costs. When Hall, the group's main money man, died in open heart surgery they eventually decided to sell. They sold in 1971 to Everett Peirce of Colorado. Hinkle, who had maintained 2 small parcels after selling to the SWR Inc. kept his interests upon the sale.

**The Peirce and Millington Years:**

Everett Peirce was a very wilderness minded individual. He built several new structures and disposed of many items he felt were not fitting or non-wilderness to the land and property by digging a large hole with the D2 and burying them. This included 2 operating saw mills on the north end of the airstrip. He also struck a trade with a local area pilot out of Conner, Montana to haul in supplies in return for the D2 Cat which was disassembled again and flown out in pieces to be reassembled back into a complete machine in Conner. Any parcels of the original homestead that had been sold over time including Hinkles, Peirce repurchased and rejoined to the main property. In 1976 he sold roughly half of the lodge's land to the USFS. Throughout his ownership he restricted use of the airfield, even to area pilots who brought in clientele, often deterring pilots from landing by sabotaging the end of the runways with downed logs or laced barbwire. When he did permit use of the airstrip in was the unwritten rule not to use the dogleg as he kept it a well-manicured lawn!

In 1990 the Selway Lodge sold to Patricia Millington of Picabo, Idaho. Don and Virginia Rhinehart became the caretakers and in 1992 wintered over. When they fell short of firewood to burn Don cut a few trees bordering the USFS boundary. In March, on Virginia's birthday they got a visit from a fully armed federal marshal about the illegal tree removal. In the end after a "investigation" into the tree falling Don finally asked what it would cost to "buy" the firewood from the USFS. The total fine ended up being \$150.00 for around 13 cords of wood... pretty cheap if you ask me! During the years that the Rhineharts were living there, larger aircrafts again started landing on the airstrip. Islanders were becoming the backcountry plane of choice for carrying in heavy loads as they were easier to operated and land due to its lower approach speeds.

**Selway Lodge: New Owners (Again!)**

Millington sold in the mid 1990's to Bob Greenville. Under his ownership caretakers Mark and Marge Tabor (boaters like us and super cool) moved to Selway Lodge in 2006. They were cleaning up before closing for winter in 2007 when a malfunctioning water heater caused a fire that burned down one of the main houses built by former owner Everett Peirce. Using the old footprint Bob Greenville built a new structure and took opportunity to work on restoring existing structures while supplies were being flown in. Most of the materials were brought in by helicopter from Darby, Montana.

In more recent years the Selway Lodge has had a wide variety of visitors from families to scientists conducting wilderness field studies. A hummingbird study is one of the latest. Guests on ARTA rafting trips routinely stop at the Selway Bridge when the water is on the lower side so that their guests can jump from the bridge that spans the river. Usually while there Jack and Missy, the Tabor's 2 Aussie dogs, come over for a visit. They delight the animal lovers in the group by enticing them to throw sticks (Jack's pick only!) into the river. Their funny and entertaining behavior is a blast to watch: The stick is thrown, Jack growls and barks back at Missy, then jumps in river to fetch the stick. Missy, not being allowed to get stick nips at Jack's heels as he goes for the stick, hence the barking and growling. This goes on for hours and hours, or until everyone has jumped from the bridge that wishes.

**Mortar Creek Fire late July 1979**  
**Heather Munn - 2016**

- 3rd largest fire in Idaho's history.
- Burned an excess of 100 square miles.
- "The fire danger in the backcountry was higher than Heaven or Hell".
- The fire was started by 3 horse packers that were camped near the river trail in between Artillery and Dome creeks.
- @ 2:24 on the afternoon of July 26th The fire was detected from overhead it was 10 sq. ft.
- Within 8 minutes a helicopter left Challis for Indian Creek to round up a 5 man crew for initial effort. (fire crew was already stationed at Indian creek fighting other fires in the area)
- 3:15 an air tanker from Boise dropped 1200 gallons of firetol, a second tanker , a DC6, from SLC hit it with 2200 more gallons.
- 4:15 Within an hour of the drop the fire was at 150 acres and had reached the tree tops.
- 4:45 a half hour later it had double in size to 300 acres and crossed the river.
- The winds were too intense to get smoke jumpers into the fire and by nightfall had consumed 1,000 acres.
- Because of the rugged, secluded and steep nature of the terrain and the winds surrounding the fire it was almost another 24 hours before the Forest Service could get men back on the fire line.
- July 28th only 500 new acres burnt.
- July 29th there were 600 men on the fire.
- July 30th the fire was declared contained at 2,250 acres
- As a result the men were reduced to 50, this proved to be a crucial mistake
- Aug 2nd fire blows up and claims 1,000 acres
- Aug 3rd the fire doubles in size
- Aug 4th the overall command for the fire shifts from Bruce meadows to Boise
- Aug 4th an airplane carrying 5 river runners crashes 1.5 miles before indian creek the passengers all perish and the pilot eventually succumbs to his injuries as well. Firefighters are needed to put out the fire caused by the plane crash.
- Aug 4th Hughes river company sinks their gear in the river to avoid fire damage and is evacuated to Indian creek by pilots that were flying illegally.
- Aug 4th a scanner plane with infrared film is used to keep tabs on the fire.
- Aug 4th the fire enlarges to 11,800 acres.
- Aug 5th The convection column over the fire created too much turbulence at 30,000 ft. to take a reading
- Aug 5th Hot shot crews are sent in to protect the Middle Fork lodge, and are successful.
- Aug 6th revealed the fire had grown to 30,800 acres, 20,000 acres in two days.
- Aug 6th Mortar creek fire considered a "zone" fire individual teams responsible for their own "zone".
- ~800 men on the fire at this point, 500 in route.
- ~150 person overhead crew supervising
- Aug 7th another 10,000 acres engulfed.
- ~The fire had its own micro climate, temps between 1200 - 1800 degrees, with 75 mph winds.
- Aug 8th 56,000 acres and 2,365 Firefighters
- Aug 8th temps began to get cooler and the air moisture began to increase and clouds started to roll in.
- Aug 11th Clouds darken and a steady drizzle begins
- Aug 12th An inch of rain has fallen, weather change is so dramatic Firefighters aren't prepared and a hypothermia victim needs to be evacuated.
- Aug 12th the fire is controlled at 65,300 acres inside a 102 mile perimeter.
- The mortar creek fire burned so hot it sterilized the soil causing extreme difficulty for the ecosystem to recover we are just now seeing tiny saplings trying to grow in the heart of the fire damage. Other evidence in the landslide scar above Thomas creek just after the middle fork lodge.



**The Bighorn Sheep Bow**  
**Rafael Acuna - 2016**

Almost all Native American tribes used locally sourced horn to make bows, but the bighorn sheep bow is the most mythical. According to the Jackson Hole Museum, these bows “were the most powerful weapons in North America before the advent of guns. Tillered and perfectly balanced, they were strong enough to pierce buffalo hide.” Other accounts claim that they were powerful enough to shoot clean through a buffalo.

**Who Made Them?**

The Sheepeaters or Eastern Shoshone (our friends from the Middle Fork of the Salmon) were the most notorious bighorn sheep bow makers. However, the Mountain Crow and a small band of the Nez Perce (our friends from the Selway) also constructed bighorn bows. The Sheepeaters were the master craftsmen. Their bows as trade currency were “worth up to ten horses,” according to the Jackson Hole Museum, and archeologist have found remains of their bows as far away as North Dakota.

**The Bow and the Making Process**

In the geeky and obscure world of bows, the English Longbow and the Mongolian Composite Bow are legendary. The Longbow was 6 feet tall and traditionally made out of Yew, while the Mongolian bow was 54 inches long and made of a wooden Birch frame covered with flattened pieces of sheep horn. The bighorn bow, in comparison, was made entirely of bone with a sinew wrapping and measured only 32 inches in length. Horn and sinew can handle more bend than wood, and rebound with greater force which theoretically made this bow stronger than both the English Longbow and Mongolian Composite.

The building process for the bighorn bow was intricate and required two horns. The horns were left in hot springs until they were pliable enough to work and shape (probably in the two weeks range depending on the temperature of the hot springs). The curve of the malleable horn was then reversed and the horns were shaved down. These separate pieces were tied to a straight piece of wood and allowed to cure. Once hardened, the pieces were lashed to each other, base overlapping base, with strips of sinew and shaved down again. Finally, the bow was “finished” by rubbing the horn with a buffalo rib to make it smooth and coating the sinew with burnt gypsum to help waterproof the sinew.

Legendary bow complete.



**History of the Wilderness Act and the  
Frank Church River of No Return Wilderness  
David Stratton - 2016**

***"There is just one hope of repulsing the tyrannical ambition of civilization to conquer every niche on the whole earth. That hope is the organization of spirited people who will fight for the freedom of the wilderness.***

***In a civilization which requires most lives to be passed amid inordinate dissonance, pressure and intrusion, the chance of retiring now and then to the quietude and privacy of sylvan haunts becomes for some people a psychic necessity. The preservation of a few samples of undeveloped territory is one of the most clamant issues before us today. Just a few more years of hesitation and the only trace of that wilderness which has exerted such a fundamental influence in molding American character will lie in the musty pages of pioneer books ... To avoid this catastrophe demands immediate action."*** - Bob Marshall

### **The Wilderness Act**

Bob Marshall introduces the idea of Wilderness preservation to the Forest Service

In 1931 The Central Idaho primitive area is formed - A 1 million acre preserve in the center of what is now the Frank

In 1935 Bob Marshall co-founds the Wilderness Society

Other key figures in the early Wilderness movement - Aldo Leopold, Wallace Stegner, Harvey Broome, Mardy and Olaus Murie

The Wilderness Society starts drafting proposals for a wilderness preservation system in 1956

Howard Zahniser writes 66 drafts of the act

In 1963 a young senator from Idaho, Frank Church, sponsors the bill in the Senate

### **Senator Frank Forester Church**

Born in 1924 in Boise, Idaho

Grows up hunting, fishing, and canoeing the rivers of Idaho

Goes to Stanford for undergrad, then Harvard for Law School

Serves as an intelligence officer in Burma during WWII

Elected Senator (as a democrat !) in 1956, 32 years old

First Democrat to be reelected in Idaho, elected to four terms

Focus of his career was on foreign policy, chairs the Senate Committee on Foreign Affairs

Goes after the CIA

Goes after "big business"

Loses nomination to Carter by 1%

Frank also introduces a lot of environmental legislation

2 big bills - The Wilderness Act of '64 and the Wild and Scenic Act of '68

**History of the Wilderness Act and the Frank Church River of No Return Wilderness - David Stratton –  
2016  
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**The Wilderness Act**

Frank Church succeeds by selling the idea of national heritage, that the Wilderness is what made Americans Americans

President Lyndon Johnson signs the bill on September 3rd, 1964

*"If future generations are to remember us with gratitude rather than contempt, we must leave them something more than the miracles of technology. We must leave them a glimpse of the world as it was in the beginning, not just after we got through with it."*

*"We must not only protect the country side and save it from destruction, we must restore what has been destroyed and salvage the beauty and charm of our cities ... Once our natural splendor is destroyed, it can never be recaptured. And once man can no longer walk with beauty or wonder at nature, his spirit will wither and his sustenance be wasted."* Lyndon Johnson

- Instantly designates 9 million acres, including The Ansel Adams in CA, The Bridger in WY, The Boundary Waters Canoe Area in MN, and The "Bob" in MT
- The Salmon Rivers are not originally given Wilderness status
- In 1968 The Wild and Scenic Rivers Act protects both The Middle Fork and Main Salmon as free flowing rivers
- In 1978 Pres. Jimmy Carter and his Secretary of the interior do a 4 day Middle Fork trip
- In 1980 he signs the Central Idaho Wilderness Act creating the River of No Return Wilderness - 2.367 million acres, 2nd largest in the US
- Ranches, Airstrips, and Jetboats are grandfathered in
- Airstrips are sabotaged, Frank Church is adamant on the airstrips remaining
- At the age of 55 Frank Church falls into poor health
- 4 weeks before Church's death, the Wilderness is renamed the Frank Church-River of No Return in his honor
- There are now 110 million acres designated Wilderness, 750 areas in 44 different states

*"Without wilderness, we will eventually lose the capacity to understand America. Our drive, our ruggedness, our unquenchable optimism and zeal and elan go back to the challenges of the untrammelled wilderness. Britain won its wars on the playing fields of Eton. America developed its mettle at the muddy gaps of the Cumberlands, in the swift rapids of its rivers, on the limitless reaches of its western plains, in the silent vastness of primeval forests, and in the blizzard-ridden passes of the Rockies and Coast ranges. If we lose wilderness, we lose forever the knowledge of what the world was and what it might, with understanding and loving husbandry, yet become. These are islands in time — with nothing to date them on the calendar of mankind. In these areas it is as though a person were looking backward into the ages and forward untold years. Here are bits of eternity, which have a preciousness beyond all accounting."* - Harvey Broome



**Pacific Yew**  
**Heather Munn – 2017**

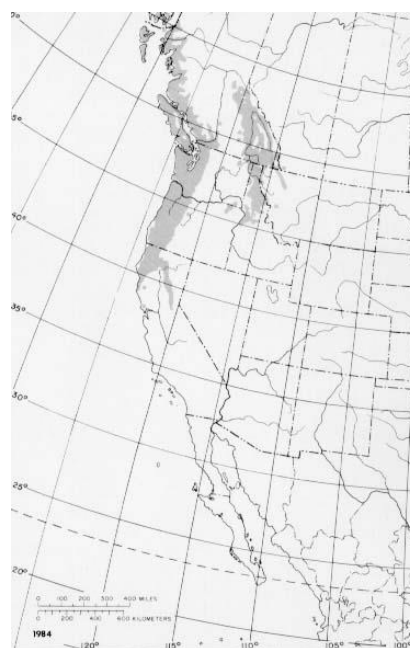
The Pacific yew is a small to medium-sized evergreen tree, growing 10–15 m tall and with a trunk up to 50 cm diameter, rarely more. In some instances, trees with heights in excess of 20 m occur in parks and other protected areas, quite often in gullies. The tree is extremely slow growing, and has a habit of rotting from the inside, creating hollow forms. This makes it difficult and sometimes impossible to make accurate rings counts to determine a specimen's true age. Often damaged by succession of the forest, it usually ends up in a squat, multiple leader form.

Pacific yew grows in varying types of environments; however, in drier environments it is mostly limited to stream side habitats, whereas in moist environments it will grow up onto slopes and ridgetops. Pacific yew is shade tolerant; however it can also grow in sun. The tree's shade tolerance allows it to form an understory, which means that it can grow along streams providing shade to maintain water temperature, as it does along Indian Creek on the Main Salmon. Once the understory is established yew trees can survive if the overstory is destroyed by fire or wind.

Pacific Yew trees are found from sea level in coastal areas to 8000 ft in Sierra Nevada. The largest yew trees found in Southwest Oregon at mid to low elevations in drier interior valley slopes between cascade and coastal ranges. Native Americans used the Yew wood for tools, utensils and medicine for a broad range of ailments. Native Americans also smoked yew needles which was said to cause dizziness. Haidas, Pacific Northwest Native Americans, thought that eating yew berries would not allow women to conceive.

The bark of the pacific Yew tree contains Taxol which was identified in the 60's as an anti-cancer agent. The National Cancer Institute (NCI) has found taxol to be one of the most promising of more than 120,000 plant compounds tested for anti-cancer properties. Taxol appears to be effective against a wide range of tumors, and good responses have been obtained in the treatment of refractory ovarian cancer. Attempts to synthesize taxol in the laboratory have failed, and prospects for success in the future are considered to be poor. The only known source of taxol now is yew bark. Taxol has been found in most of the several other species of Taxus that exist, but Pacific yew is the only one that is considered to be a practical source of quantities sufficient for clinical use. At least one private organization has begun to investigate alternative ways of producing taxol, through tissue culture and by growing vegetatively propagated seedlings in a controlled environment.

On average one yew tree yields 9lbs of dry crystalline taxol. Most of the trees used for taxol will be cut from federal lands where they haven't been inventoried. On non-federal lands in Oregon, Washington, and California there are an estimated 700,000 yew trees 11 in. in diameter (the size of most yew trees used for bark collection). An unknown but substantial yew resource has been destroyed in the logging of Douglas firs, mostly done by clear cutting. The rootstock however have survived and in many places have started sprouting.



**Reho Wolfe of the Main Salmon**  
**TESS MCENROE – 2017**

[Guide note: tell this as a story while standing at her homestead or floating by. Also a great walk up from the awesome camp at Rhett Creek].

Of all the eclectic characters who have lived in the Salmon River canyon for the last 10,000 years, Reho Wolfe is one of my favorites. (Her name alone is awesome!) She was a hearty, strong-willed woman, versed in rugged, backcountry living, and raised her seven, (some say eight), children on the banks of the Main Salmon River, just above Rhett Creek and Gaines Bar on river right. A small cabin is still standing there and is used by the Wolfe family today, but Reho Wolfe and her family lived in it year-round. Rafters and hikers are welcome to visit and walk around the property, just don't go inside the cabin.

Reho was born in 1916 in Oregon, and died in her beloved cabin in Idaho at age 82, in 1998. She and her first husband George came to the Salmon River in 1945. During their first winter, their cabin near Alison Ranch burned down, and another tragedy happened to the couple soon after. The Wolfe's son, Norman, died from drowning in Mallard Creek just upstream. Their marriage ended in divorce soon after that accident.

Reho moved to Lewiston, Idaho, but in 1957 returned to the Salmon to find Morrow Hancock, who settled upstream above Big Mallard Creek, and she hoped to make a claim on an abandoned mine near Gaines Bar. A year later she moved her seven children out of the Lewiston public schools, and brought them to live at her new property in the backcountry of the Salmon River.

Reho was homeschooling her children at the time and also advocated to create a school along the river corridor for the other children and families who were living there year long. Music lessons in the meadow and picking fruit in the orchards were common occurrences at their homestead. The school district filed truancy charges eventually. This is one of my favorite parts of her story -- Reho hiked 84 miles into town to Lewiston while she was 8 months pregnant to go to court to fight the charges and to bring an official school to the Salmon River. Meanwhile, the Forest Service said she had no claims to the cabin. She fought both cases in court and all charges were dropped.

I love her story because it is another example of the how the people who lived on the river survived together and were very connected to each other and landscape. Reho is an example of standing up for your children and your community no matter in your town, or the largest wilderness in the lower 48!



**The Magruder Corridor**  
**Billie Prosser - 2017**

The Magruder Corridor Road is a 101-mile primitive road winding through a vast and undeveloped area that separates the 1.2 million acre Selway-Bitterroot Wilderness and the 2.3 million acre Frank Church Wilderness. This road offers solitude and pristine beauty with expansive mountain views, that looks much the same as when Nez Perce and early travelers traversed the area. It was constructed in the 1930's by the Civilian Conservation Corps (CCC). It has been known as the Southern Nez Perce Trail, Elk City to Darby Road, Montana Road and The Parker Trail.

The Corridor was created in 1980 when the Central Idaho Wilderness Act was passed, leaving a unique road that enables a traveler to drive between the two wilderness areas. Together the Selway-Bitterroot and Frank Church Wildernesses make up the largest roadless area in the lower 48 states. They are nearly twice the size of Delaware and Rhone Island combined. This Road is probably the most remote and wildest of roads in the United States as there are no services for close to 150 miles.

The Magruder Corridor is named after Lloyd Magruder. In 1861 gold was discovered along the road at a place known as Elk City. In 1862 another large gold find was found in Bannack, Montana. A major Gold Rush of Idaho ensued, and the Magruder Corridor became a popular route between Virginia City and Bannack, Montana. Magruder and fellow companions were returning along this route from Virginia City where he had made a handsome fortune in gold dust by selling supplies to the miners. Four other travelers joined up with Lloyd and after a few days on the road together they attacked and murdered Magruder and his companions.

The murderers burned the bodies and rolled them off a cliff. They fled to San Francisco with the stolen booty, but were pursued by Hill Beachey, a friend of Magruder's, who brought them back to Idaho to face charges. 3 of the 4 guilty men were hung. Lloyd had been a successful California Merchant and was well respected among his friends. Prior to the ill-fated trip he had agreed to represent the Idaho Territory in Congress. There are today many places along the Road that bear his name, including the Magruder Ranger Station and the Magruder Crossing, which is the only place to cross the Selway River in the upper drainage.