

So What's the Deal with Bull Trout Or An Original Montanan Or ???

By Bruce Rieman, Clearwater Resource Council

First of all, let's set the record straight. Technically speaking, bull trout are not really trout. Neither are the brook trout or lake trout. And if we're really precise in scientific terms, rainbow trout and cutthroat trout are actually salmon. And brown trout are – surprise! – trout. Of course scientific groupings and names for fishes are often confusing and of little concern to most of us. But understanding the differences and the diversity it implies can tell us something about the way our natural world works. So---- here goes.

Bull trout, brook trout and lake trout are actually part of a group known as the chars. Cutthroat trout and rainbow trout are grouped with salmon, along with the well-known Pacific salmon such as Chinook and the sockeye's landlocked form called kokanee. The true trouts include brown trout and Atlantic salmon. Chars, salmon and trout are all in the scientific family *Salmonidae* with some others like mountain whitefish. Fishermen commonly think of all these fish as "trout and salmon", even though to us geeks in fish laboratories there are some important differences.



Photo:

Fishes eye view of a bull trout in a nearby stream. One way to tell a bull trout, really a char, from other "trout" and salmon is the white spotting (rather than black spotting). The pink or red spots are often associated with spawning coloration.

Photo Credit: Aubree Benson

Bull trout and other chars evolved in northern lakes and streams and, as result, tend to do better in colder water than most of the others. This is especially true for bull trout that require the coldest waters found in our streams and lakes. Consequently, bull trout tend to spend most of their time in the highest (coldest) streams or the deepest (coldest) spots in the lakes. Bull trout are also top level predators and can

grow to remarkable sizes that can support real trophy fisheries. Montana's record is 25.63 pounds; Idaho's is over 32 pounds! We can't fish for these guys now, but maybe we have something to look forward to in the future.

The only species of *Salmonidae* that are native to our streams are bull trout, westslope cutthroat trout, and mountain whitefish. Rainbow trout, brook trout, kokanee salmon, brown trout, and lake trout (and a lot of other fish from other families like the bass and sunfish) were all introduced from somewhere else.

So bull trout are true native Montanans. But, even bull trout (or any fish) were not in the Swan and Clearwater drainages 10-12,000 years ago since both valleys were buried in ice during the last glaciation. As the ice retreated they gradually moved in from streams and rivers further south and west that escaped glaciers. Over the last 10,000 plus years they have evolved and adapted to the unique conditions in our valleys.

Over that time (say 9,900 years) bull trout had to deal with a lot of change and disruption. Floods, wildfires, storms, cold spells and warm spells, that all seem relatively rare over a human life time of 80 years or so, are actually quite common over time scales of 1000s of years. Bull trout managed to persist and even thrive in a natural world that was pretty chaotic. One way they did that was by adapting and diversifying to use the Clearwater, Swan and Blackfoot streams and lakes in many different ways. Some bull trout spend most or all of their lives in headwater streams. Some split their time between lakes, larger rivers, and smaller headwater streams. Those that move may do it at different ages and different times of the year. Some move further or more frequently than others. Some spawn when they are 4 or 5 years old, some not until they are 9 or 10 or even older. All of that variation in the way bull trout spend their lives and the distribution of that variation across our watersheds (bull trout in one stream don't do things exactly like bull trout in another) is known as biological diversity and it's key to their ability to deal with a changing and sometimes hostile world (think about a small stream after a large fire). Essentially bull trout are not all in the same place at the same time..... if something bad happens in one place bull trout somewhere else can take up the slack.

That diversity has served bull trout well for thousands of years as conditions in these watersheds have fluctuated. In more recent years change has occurred in new ways. Over the last 100 years, unnatural changes to their world like the introduction of new species of predatory fish, conversion of land from forest to other uses, construction of dams and other barriers to migrating fish, diversion of water, and pollution of streams and lakes are generally very different than the sorts of natural challenges bull trout have faced over time. These new challenges, in a blink of an eye on an evolutionary time scale, have left the species struggling to keep up. Many populations in small streams have disappeared; others are just barely hanging on.

The story is not all bleak. Biologists, natural resource managers, timber companies, ranchers and others of us that use and play in our watersheds have learned a lot about what species like bull trout need to thrive and how to make our use of natural resources more compatible with a world that can support them. In most cases the changes are not that difficult. We can use bridges rather than impassable culverts at road crossings. We can build roads on less sensitive hill slopes or a little further back from the stream. We can screen irrigation diversions so migrating fish can move downstream rather than being swept out into a hayfield. We can log in ways that are more like natural disturbances (think fire) than growing corn. We can stop stocking or moving fish that don't belong here in favor of the ones that do. And we can treat and contain our own waste rather than storing it in the bottom of our lakes.

These are all things we can and are doing, without really compromising our lifestyles and livelihoods. Mostly it just requires thinking about what we're doing and what it takes for native species like bull trout to persist and even flourish. Bull trout have been in these valley streams and lakes a long time, likely as long as or longer than any humans. They've learned something about what it takes to hang on here through some pretty dramatic change. We might even learn a few tricks from them if we pay attention.