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Perpetuating the Yellowstone Cutthroat Trout

By Margery Pepiot

Making a long, low pass over the surface of the lake, a plane marked with the emblem of the Montana Fish & Game Department, airdrops thousands of fingerling trout to their new home.

This particular lake has been carefully matched to the specie of fish being planted. In this case, the Yellowstone Cutthroat trout.

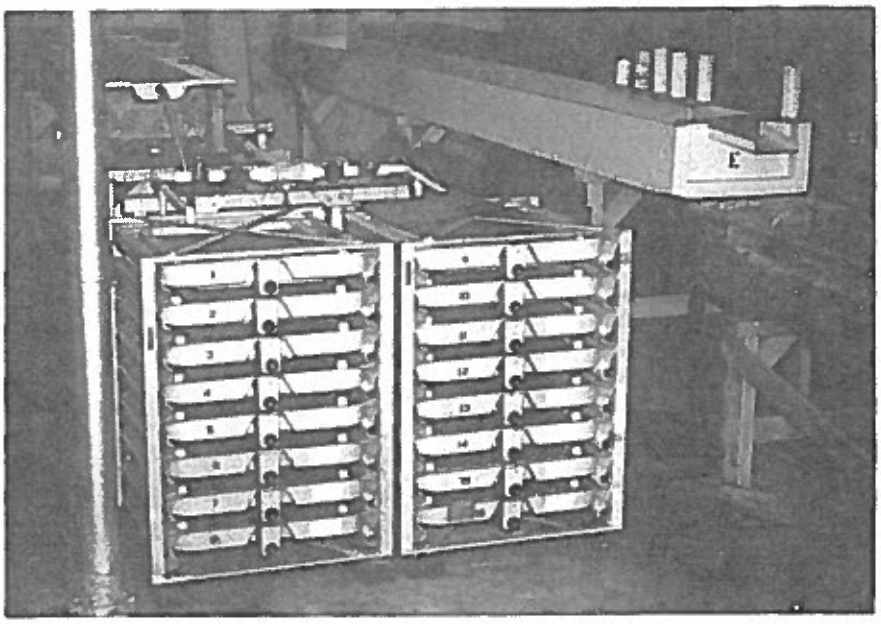
The Yellowstone is native to Eastern Montana, being indigenous to the Yellowstone river and its tributaries. It was first identified as a separate strain of the cutthroat trout in McBride Lake in Yellowstone Park. The difference between the West Slope cutthroat and the Yellowstone is mainly geographical.

This member of the trout family ranks high as a game fish and is excellent food. When growth conditions are favorable, the Yellowstone will reach ten to fifteen pounds. It adapts well to stocking in high mountain lakes and streams, but like all trout, is sensitive to environmental conditions. Many impoundments, such as Georgetown Lake, have ample food to support a large population of fish, but have no place for the specie to reproduce.

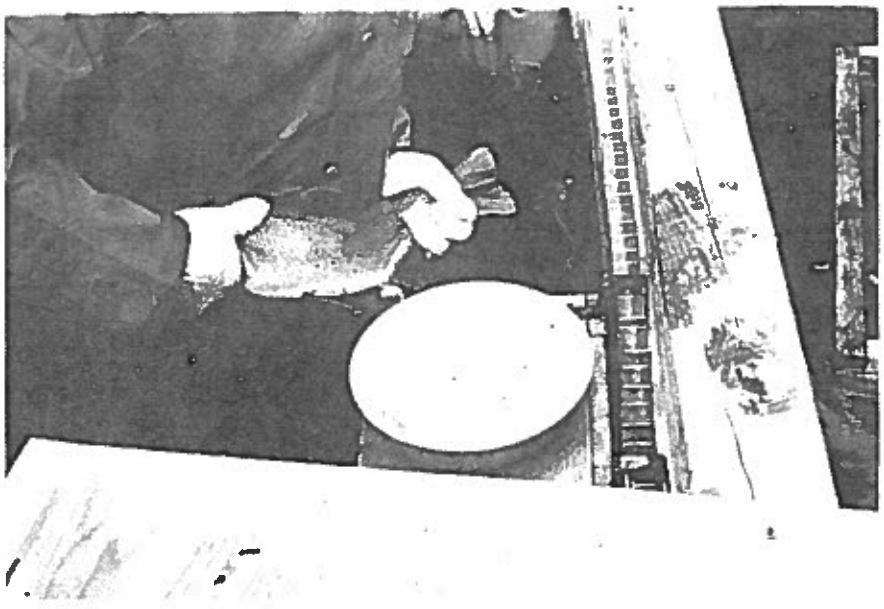
For spawning, trout need a graveled bottom in swiftly-flowing clean water. Dams and log jams, as well as environmental pollution, can eliminate breeding areas. Because of the highly specialized needs of the fish, and the increasing loss of unpolluted breeding grounds, it has become necessary for the fish to be propagated by a method known as "artificial spawning."

The state hatchery at Big Timber, Montana, is devoted exclusively to the propagation of the Yellowstone Cutthroat trout. Thurston Dotson is manager of the Big Timber station, and it was from him that we became better acquainted with this little-known member of the trout family.

Eggs are taken from the female in April and early May. After being fertilized by the male sperm, the eggs are placed in the incubators, where they remain from 27 to 31 days when the hatch occurs.



A constant flow of pure spring water cascades over the incubator trays.



Spawn taken from a Yellowstone Cutthroat at the Big Timber hatchery.

Thurston Dotson (third from left), Manager of the Big Timber Fish Hatchery, and his assistants, innoculating two year old trout.

The incubators are a series of trays, 25 x 16", placed in tiers. The trays have screen bottoms, and the eggs are placed carefully on the screen. Spring water, which remains at a constant 52 degrees the year round, flows under the trays, rising up through the eggs, then flows down into the tray below, where the process is repeated, the water cascading down the entire tier. Over a quarter million eggs can be incubated at one time.

When the eggs hatch, the egg shells are cleaned off (again in flowing water,) and the young embryo trout called sac fry, are placed back in the incubator for another week. During this period of time, while the yolk sac is still attached to the bellies of the young fish, the yolk in the sac is used for food while the tiny fish continue to develop. They are then placed in a tank of flowing spring water. When they begin coming to the top of the tank, they are ready to be fed.

Their first food is a fine-as-flour "salmon mash," high in protein, fat, vitamins and minerals. As the fish develop, the food increases in coarseness. After about twenty-two days, the baby Yellowstones take on the appearance of fish, showing areas of pigmentation, and having all their components. From this period of their growth, the fish develop rapidly.

When the fingerlings are three months old and from two to four inches long, they are ready to be transported to their new home in the wild. Most of the stocking is done by state-owned aircraft, either fixed-wing or helicopter. Fish are carried to the take-off area in trucks equipped with aerated water tanks.

The lakes are stocked in July or August, depending on when the ice goes off. Sometimes a June stocking is possible. Ninety percent of the fish produced at Big Timber is planted in lakes in the Beartooth, Absaroka, Gallatin and Madison ranges.

As in animal husbandry, good management of the hatchery requires that an adequate brood stock be maintained. Each year, a selected number of fish from each "class" is held back and raised to breeding size. Eggs are taken from fish which have reached maturity, which generally means three-year-olds, in the case of the Yellowstone. At this age, according to Dotson, the fish not only produce more eggs, but the ratio for successful rearing is higher than with younger fish. Eggs are usually taken from a fish just one season, unless she proves to be a heavy producer and is kept for another year's spawn. At this writing, the brood stock in the hatchery numbered 4500 adults from the 1978 class; 1,033 from 1977; and 650 from 1976.

On the day we visited the hatchery, Dotson and his assistants were innoculating two-year old trout for bacterial kidney disease. The disease has been present at the Big Timber station for about four years. (It has no human implications.) After being anesthetized (a condition that lasts only a few minutes,) the fish are gently placed in a foam-lined box, get their "shot," and are quickly returned to the tank. In a minute or two, they are swimming around as though nothing unusual occurred.

The Big Timber hatchery is located within spittin' distance of the Yellowstone river, but it is the spring that supplies the abundant supply of water, that makes

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Still anesticized after receiving their "shot," the cutthroat trout shown here were swimming again in a minute or two.

Laura was about 50 feet behind me and a little lower than I was, so she hadn't seen him. We both ran up to him, and I was shaking. Finally I calmed down and started to show Laura how to field dress a game animal.

Cutting the throat had always been popular among many hunters, but you can't cut the throat if you are going to have a head mount made. That would ruin the animal's cape. Since I already have a head mount, I cut the throat to show my "novice" hunter how to do it. Many people tell me you have to cut off the scent sacks on the buck's legs. Personally I have never done it and I have never gotten any bad meat, but I showed Laura how to do it anyway.

Next I made the main incision up the stomach to the chest cavity. After the job was done, we cut off his legs so he would be easier to drag to the truck. A Knapp-type bone saw comes in handy for a job like this.

What kind of guide was I anyway? I shot the first antelope I had a chance at, and Laura hadn't even had a shot. I felt like a real game hog!

We got the antelope to the truck and I showed Laura how to skin him. It was a warm day and I knew the importance of getting the hide off and a game bag on, so the meat would cool as soon as possible. To skin the antelope, I used a Wyoming knife that I had received for my last birthday. It worked very well and I decided it was the only knife for me.

We saw a lot more antelope that day, but no other bucks. We went back to camp with Laura being somewhat discouraged, but we had two more days.

Mark Twain once said, "If you don't like the weather in Wyoming, wait ten minutes, it will change." Change it did and we got out of bed the next morning to a real rain storm.

I knew it was hopeless, but Laura and I went out in the rain. We neither saw nor heard anything, as even the animals had more sense that we did. About one o'clock the rain stopped. I was sure the antelope had bedded down during the storm and would now be moving around to graze in the warm sun.

About two miles away, Laura spotted three antelope. We watched through our binoculars. They were moving slowly, but towards us. Best of all, we were sure one was a buck.

The two of us put our woman's intuition to work, and picked a spot where we thought we would meet them. We walked about three-quarters of a mile.

"We should sit and wait," I said.

Laura wanted to go around the hill, so we would have a better observation point. I said, "all right," and we started.

"I smell them," Laura said excitedly.

"I don't think so," I said, just as we spotted them. A fawn, a doe and a nice buck about 25 feet away. Then I, too, could smell them. Again, that extra "sense."

Pam LaRue gives skinning demonstration with her Wyoming knife.

They saw us at the same time we saw them. They bolted and ran up the hillside. Laura took off up the hill. I've never seen anyone move so fast. When she reached the top, they were five hundred yards away and running.

Laura had learned well. She told me afterwards, that she had held the rifle sights two lengths in front of the running antelope when she fired. She hit her mark, although it wasn't an instant kill. Laura caught her breath, calmed down, aimed and fired, putting him down for good. Two excellent shots.

I counted the steps from where Laura had shot. It was 637 steps to the dead buck. Like my buck, he wasn't a trophy. He was a nice antelope, though, and she had made an outstanding shot.

Laura had learned fast and well, She let her senses work for her. She actually smelled the antelope before she saw them.

We had an excellent hunt, and I had learned something from Laura. Something I had tried to impress on her. Use ALL of your senses. Don't fight them, let them work for you.

Cutthroat Trout

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the location such an advantageous one. The pure, cold water flows at an average rate of 750-800 gallons per minute, at a constant temperature of 52 degrees. During times of low flow, the hatchery uses a re-circulating system, assuring a constant supply of fresh water.

Montana has seven other state hatcheries, the others being located at Anaconda, Arlee, Bridger (Bluewater), Great Falls, Lewistown, Libby and Somers. Federal hatcheries are located at Bozeman, Creston, Ennis and Miles City.

There is recorded evidence that fish were being reared artificially in China as early as 2100 B.C. The first account of Europeans culturing fish dates back to the Romans who reared young fish, but apparently did not take spawn. It remained for a German to be the first to artificially fertilize fish eggs, sometime in the mid-1700's.

Fish have always been an important source of the world's food supply. The effort to maintain the piscatorial population by sound management practices of both fish and environment is ongoing, and important ecologically and economically.

With the Big Timber hatchery and others like it providing fish to stock our lakes and streams, the pleasures of catching fish for sport and for the table will be with us for as long as required by man.