Spring 1951

DEPARTMENT PERSONALITIES

—Introducing Ann

The fisherman pictured below is Ann Holshue, known to may of her correspondents as Mr. Holshue, or just plain "A.F."

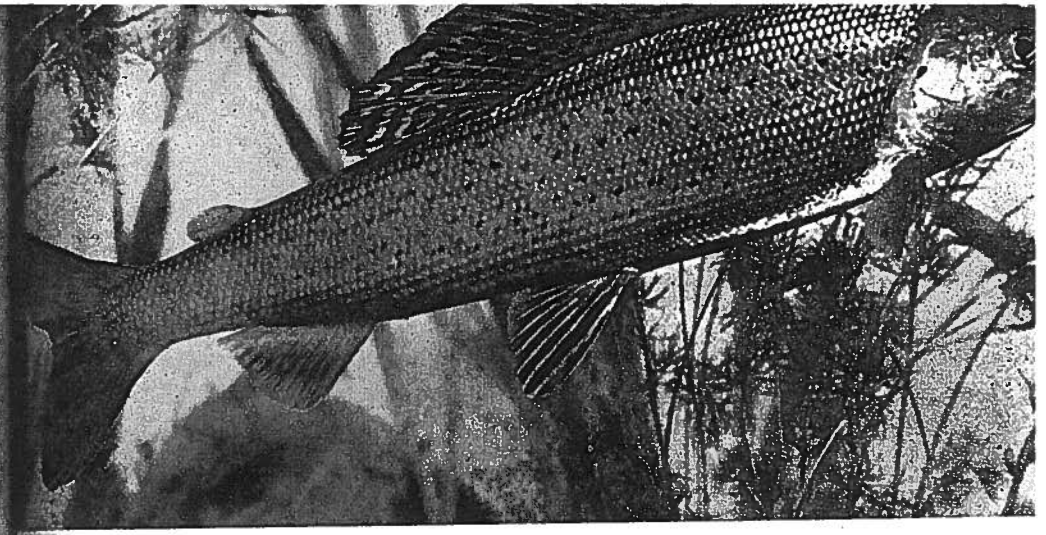
She can't help it if out-of-staters for whom she plans fishing excursions and hunting trips think she's a gentleman. Perhaps those who write for information to the Fish and Game Department just naturally think only a man would know so much about planning a Montana outing, and could give such accurate information. Nine times out of ten, when these thankful sportsmen get back home, they write to the department and thank the kind "Mr. Holshue" for directing them to just the right places.

Well, Ann's main job is being the main-office secretary where she does various and sundry jobs besides acting as corresponding guide for hunting parties. She types, files, sells shipping permits, trapper's permits, fishing and hunting licenses, answers telephone, and knows by memory practically all fish and game laws and regulations.

white collar angler

There are probably a few sportsmen who would resent having their fishing trips planned for them by a secretary, especially female, but any objections in this case would be unfounded, for Ann, though a white collar worker on week days, is an angler from 'way back on Sundays and after work. She can fish right alongside the best of them, and do as well at landing a three-pound rainbow as any fellow can. And, like a true sportsman, she loves it.

Ann has a sparkling personality, and if you should ever drop into the fish and game department, she is the first person you will meet. If you should desire some information about fishing, she can tell you how the fishing is, what to use for bait, whether to use wet or dry flies, what lakes or streams are offering the best fishing, and what time of year would be best for you to take your vacation if you have a fishing trip in mind.



Long Live Our Grayling

By FRED BEAL

Foreman, Anaconda Fish Hatchery

The whole picture of the fight for survival of Montana's fightingest and most delicate fish.

As we now realize, Mother Nature was extremely gracious and generous in her bequests upon the land now known as Montana and one of her outstanding contributions was the fish Thymallus Montanus—Montana Grayling.

This fish, living among other native species at the headwaters of the Missouri river above the Great Falls was found here by the Lewis and Clark expedition. Through the efforts of the Montana Fish and Game Department, which started in 1908, we still have them residing in most of those places plus many lakes west of the continental divide. It has only been due to man's efforts in changing the face of the earth that we have lost the grayling in some areas by building dams, plowing land, over-cutting the timber, polluting water, and planting foreign species of fish. He has destroyed something that was essential for food, or that was necessary to produce it for the tiny fry as he emerged from the fine gravel or sand where the eggs had been deposited. But aside from this, we still do have many fine grayling waters in the state that provide good returns and many hours of good fishing for the Montana angler.

georgetown plant

As stated above, the Montana Fish and Game Department started to work on grayling propagation almost at its inception and grayling eggs were secured from one of our streams on the eastern slope and planted in Georgetown lake. It was a very

(Continued on next page)

Fred Beal nets a grayling from the traps on Georgetown lake and holds him up to be photographed.

fortunate act inasmuch as the original stocking has provided Montana and other states in the nation with millions of eggs. Fortunate, because before this time the United States was importing carp and other species of fish from Europe and had someone gotten the idea that they should have been planted in the lake, Lord only knows what the present picture would be.

We have been able through the years to make plantings in other waters. Of course this has been on a trial and error basis and in many waters tried, they did not flourish, while on the other hand we have made plants that today provide excellent fishing. As we continue our work in this field we may be able someday to test the water for the food required or the biological and chemical conditions necessary for those tiny fry to get started. We have already made some steps in this direction. In 1934 or thereabouts, C. Fuqua, then Superintendent of the Fish and Wildlife Station at Bozeman, Montana, perfected a system of feeding fry by grinding horse hearts through a 5/64 grinder plate 30 times and applying this to the troughs by screening it through a 40-mesh-to-the-inch screen. This artificial feeding program was carried on at the Great Falls station where the temperature was 52 degrees F. which is the same as at Bozeman, while the temperature at Anaconda is 49 degrees. We found that this would not work at Anaconda, because of water temperature. So it became necessary to revert to a natural food. We have found here that by getting a culture of daphne started in a tank 100 ft. 10 ft. with an average depth of 3 ft., and food consisting of well rotted sheep maneur mixed ½ with black oil and by cutting down the inflow of water, we are able to get this into the 52 to 60 degree temperature range by sunlight. After the water is warm enough we then introduce our daphne and let them reproduce at least 2 weeks before we stock with grayling. When they became 1 inch long we were able to hold 10,000 grayling until the spring and they are now 4 to 6 inches long.

experimental work

While this method of propagation has proven itself and we have made grayling plants of this size in questionable water, it has not proven to be good management. After the original fish were caught this was the end of the fishing, for there had been no reproduction. So future plantings of fingerling grayling should be made in proven waters and the experimental work done with fry.

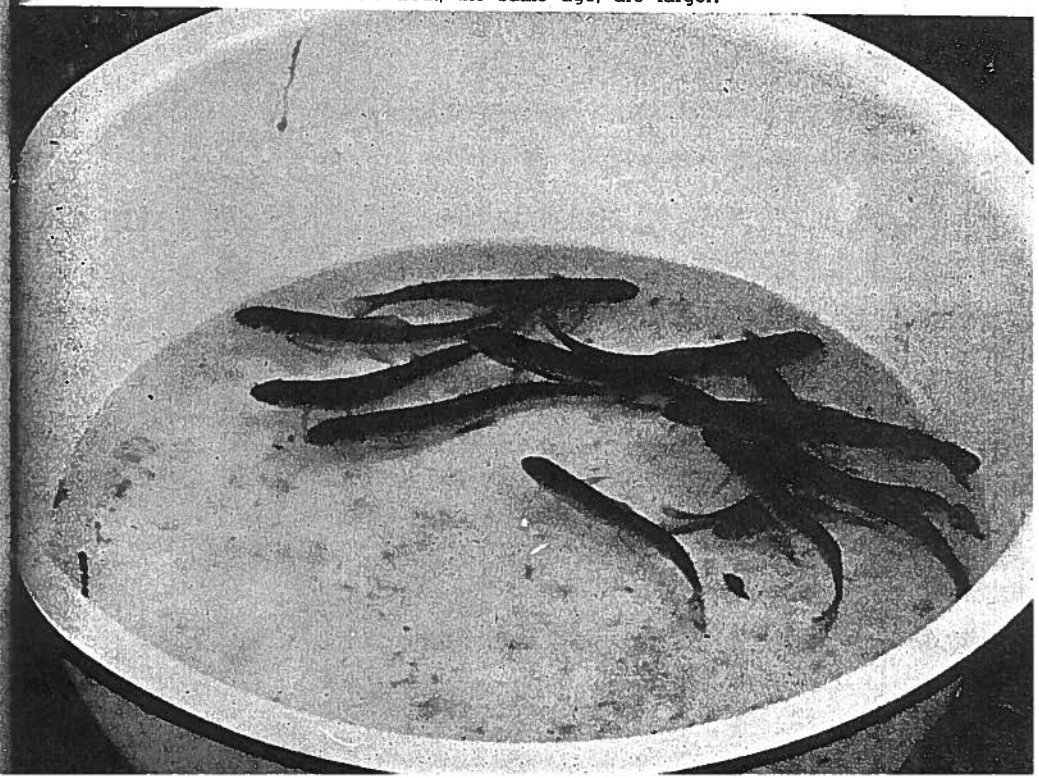
When one views our present day fish cultural program it is easy to see why many states do not care to handle grayling. We are now operating on a cost per pound production basis, and it takes many many grayling fry to make a pound. Stacked up against the myriad hours of labor put on a grayling battery, especially if the eggs come into the hatchery under much less than perfect condition, it is an expensive and troublesome operation.

We have found in our work at the traps at Flint creek that the adult grayling will not stand as much handling as trout. It seems that they are more susceptible to the attack of fungus where scales are scraped from the fish in the tail area. Because of this, one has to be very careful not to overcrowd the grayling pens if they are too green for spawning and it appears that they will have to be held for some time. Another activity that has to be handled very carefully is the actual spawning operation. As stated above in order to get a good hatch, the eggs must be almost 100 per cent fertile. If a female is spawned and there is a broken egg in the pan you have to throw them away and start all over.

egg breakage

Egg breakage can be readily seen because it is very much like the

These grayling are one year old, and are thriving in the rearing pond at Anaconda. Rainbow trout, the same age, are larger.



CLOWN OF THE INLAND WATERS

(Continued from page 19)

can give forth musk from their scent glands. They characteristically travel in groups. It has been reported that these groups may range as high as 14, but observations indicate that the group usually consist of a pair or the pair and their young of the year. The otter is active during the entire year. It travels mostly at night but occasionally in the daytime. If taken when they are young they make friendly pets. Except for man, these animals have few or no enemies. They are able to elude nearly all other animals powerful enough to be of concern to them. The dens are mostly underground burrows with an underwater opening and an air hole on the surface. In some cases the burrows are in hollow logs and trees along the shore of a lake or stream.

The otter population was probably never abundant. It is estimated that the primitive population over its range was an average of one otter per eight square miles (Seton, 1926). The cruising range of an otter family may extend as much as 50 miles or more.

food habits

The river otter is highly pisciverous (fish eater). Records show that the largest percentage of their food is forage fish. Other items of food are taken in lesser quantities. They have been reported to feed on ducks, muskrats, small beavers and poultry. Small mammals and birds are con-

(Continued on page 26)

LONG LIVE OUR GRAYLING

(Continued from page 7)

Hole watershed was found to have a good run of grayling in its inlet. In order to make a thorough check on the situation we went in there during the run, built a temporary trap, and secured five gallons of eggs. These were packed out by man pack and were found to be of good quality. The next year pack horses were used and a tent for the caretaker was put up and permanent wooden traps were installed. Because of the rainy weather in high altitudes during May and June, and the heavy infestation of wood ticks in that area, it was necessary for us to build a cabin. We used this source of supply for a few years until we could get the Georgetown stock rebuilt.

competition

Roger's lake in the Kalispell area is also well stocked with grayling and has been used for an egg supply. There are some things that we have definitely learned where grayling are concerned, and one of these is that they cannot stand too great a competition from other trout. When our fisheries program was initiated years ago, the Eastern Brook trout was one of the main fish used in cultural operations and they were imported into the state from the east. The resulting fry were pretty generally distributed and as a result of their affinity for our waters, they have almost driven the grayling and cutthroat trout from their natural habitat. In order to resecure these areas for grayling again it will be necessary to take some vital steps to remove the Brook from them.

One action that has been considered is the lifting of the present creel limit on Brook in definite waters from the present 15 fish per day to 40 to 50 per day and then supplement this action with heavy planting of our native species.

While arguments against such actions might arise in conservation circles it is the only logical way we can recapture these waters for our native species which I think is so important that we make every effort to maintain.

by Old Silver Tip

Just as humans become embarrassed by unusual happenings, it appears that wild animals also experience the same feelings at times.

I recall such an instance when a coyote got in an embarrassing position but covered up with dignity and poise. We were driving along the road in the car when we saw a coyote in the borrow pit, just a few feet off the shoulder of the road. He was not the least bit alarmed at our approach, so I coasted up to him, set the brake and jumped out at him. He had moved away from the road a few feet by the time I stopped, so I jumped out and "woofed" at him.

He bared his teeth and trotted away from us, much disturbed by the intrusion. As he bounded off, he kept looking back over his shoulder, paying no attention to where he was going. He had gone maybe 50 feet when he tripped and fell headlong over a sage brush. Instead of getting up alarmed and running away, he got to his feet, looked at us, looked around to see if anyone had seen him, and then started digging at the foot of the sagebrush as much as to say, "that's what I figured to do anyway—methinks there's a mouse hereabouts."

He would dig for a few seconds, look at us, dig some more, and finally after a few minutes, he trotted on his way, saying (in animal language):

"Imbarrassed—I thought I'd die!"