When Trout Feed and Why

Leonard M Wright – *Trout Maverick* (Lyons, 1996)

When do you mow the lawn and when should you fish? A glance at the sky and at your stream thermometer will tell you.

There is a lot of truth in the old saying that the best time to go fishing is whenever you can get away. Removal of storm windows, mowing of lawns, taxi service to the Cub Scouts, and the like make mighty contributions to the cause of conservation each year.

Yet there are some days, and even some hours of these days, that offer better fishing than others. And the angler who knows when these periods will occur has a greater chance at success because he'll know when it will pay to defer chores, defect, or downright desert. He can be sure the penalties will be worth the crime because he'll be astream when the trout "are really on."

I began to learn how to predict heavy trout-feeding periods purely by accident over twenty years ago when I was made unofficial (and unpaid) manager of a small, north-eastern fishery—about a mile of freestone river that averaged forty to fifty feet wide and contained wild brook and brown trout. The water was slightly acidic, therefore not very fertile, and by mid-June the hatches became skimpy at best, and those were few and far between.

It was decided that since stocked fish were expensive and added little to the fishery in the long run, the meagre available funds would be used to improve the existing wild population. This meant habi- tat improvement to create more holding water and supplemental feeding to increase growth, keep resident fish in place, and perhaps encourage some recruiting from downstream.

We bought bags of floating pellets and cast the contents upon the waters liberally and frequently, but the pellets just floated merrily down the stream, untouched by trout. This puzzled me, because a couple of miles downriver, on a heavily stocked section, the trout boiled for the very same brand. It slowly dawned on me that wild trout, as opposed to hatchery stock,

wouldn't eat pellets. They hadn't been trained to do so from infancy, and the little brown cylinders didn't look or act anything like their natural insect food.

I was about to scratch the feeding program when I remembered that the famous fly fisher and early twentieth-century stream conservationist Edward R. Hewitt had fed his stream fish with ground beef lungs, or "lights," and he claimed that his wild fish gobbled them up. So I bought some lungs from a small, nearby abattoir, had my local butcher run them through his grinder, and embarked on "Operation Lungburger."

Ground lungs look much like hamburger- a bit paler and pinker, perhaps—and wild trout think they're the greatest thing this side of McDonalds. Equally important, lung tissue floats.

What isn't eaten in the first pool floats down below to the next batch of trout, thus cutting down on waste. And, since most of the little pink blobs stay on the surface, you can easily observe the intensity of feeding activity because the fish must break the surface to get the food. I quickly noticed that sometimes only a few fish would feed, half-heartedly, while at other times the entire pool would erupt for minutes. Same pool. Same trout. Same amount of food. Why the big difference?

Within a few months, I learned how to predict when the fish would feast and when they would fast, and that saved a lot of wasted lungburger - and money. In the early spring and again in fall, trout fed best on sunny days between 1 P.M. and 4 P.M. In bright, mid- summer weather, they fed most actively from 11 A.M. to 12:30 P.M. and in the evening from 7 P.M. until dark. On cloudy days, feeding was mediocre at best at all times of year.

So far I had merely rediscovered the obvious: Trout take natural flies, artificials, and, of course, lungburger far more eagerly under certain fairly predictable conditions than they do under other conditions. But why? What did the excellent feeding times, which varied considerably with the weather and time of year, all have in common?

Temperature offered a tempting lead. I'd noticed that trout didn't start to surface feed on spring days until the water reached 45 degrees Fahrenheit and that they shut down almost completely in summer when it hit 72 degrees. Another clue was the biologists' finding that trout metabolism (their efficiency in using oxygen and digesting food) peaked at about 63 degrees.

From this small start, I soon became a temperature addict. I would dunk my stream thermometer many times each day and jot down the readings along with hour, water level, and weather con- ditions. I discovered that trout in a small freestone river live on a thermal rollercoaster. On a crisp, sunny day when the water flowed at summer levels, the temperature might be as low as 54 degrees in the early morning and climb to 70 or even 72 degrees by mid-afternoon. That's a 16- to 18-degree difference in a twelve-hour period.

I also noticed that the best dry-fly fishing and feeding periods occurred on just such days—in the morning when water temperatures raced toward, and passed through, the magic 63-degree mark and again at dusk when readings dropped toward that optimum number. In spring and fall, the trout fed best as the temperature climbed past 45 degrees toward 63 degrees - though it seldom reached that high—and feeding ended abruptly when the temperature dropped lower in the late afternoon.

My rule on trout feeding activity on any freestone river—with only two parenthetical qualifiers—can be stated fairly simply:

Trout feed actively when the water temperature (once it has passed 45 degrees or fallen below 72) changes toward 63 degrees, and the faster this rate of change (for that particular river) and the closer it gets to 63, the more active the feeding will be.

I have found no exceptions to disprove this rule in over twenty years of feeding wild trout. However, it is fool-proof only on freestoners.

On limestone streams, spring creeks, chalkstreams, or on cool flows below dams, temperatures are much less volatile and hourly readings may show little variation. Yet trout on these types of streams snap on and off the feed as quickly as they do on free-stoners. So it appears that while a swing in water temperature was a useful indicator of trout activity, it wasn't, perhaps, the sole cause of trout-feeding periods. It might be merely the finger that pulled a distinctly different trigger.

Oxygen seemed a likely element to look into, since it takes oxygen to run muscles, digest food, and put on growth. With the possible exception of food, it is the single most important requirement for trout existence. Trout can live for months without food. They die in minutes without oxygen.

My first glance at oxygen as the prime mover looked unpromising. Water at 45 degrees, where trout feeding barely begins, contains over 25 percent more oxygen than water at the trout's optimum 63 degrees. When the temperature rises during a spring noontime or during a late summer morning (and when the fishing should be excellent), the water is actually losing oxygen.

I began searching learned pamphlets and scientific journals for another factor, and I finally found it: ***trout metabolism***. This, as I've mentioned, is a measure of the fish's efficiency in digesting food and of its capacity to extract and use oxygen.

I found from one lengthy document that, at top efficiency (pre- sumably 63 degrees), trout can extract 90 percent of the dissolved oxygen from the water that passes through their gill covers. This makes the gill an extremely effective organ. Our lungs take out only about 25 percent of the oxygen from a lungful of air.

This same monograph told me that gill efficiency varied widely at different temperatures. At both 45 and 72 degrees (where trout feeding usually starts and stops) gill efficiency drops down to about 45 percent or only half of what it is at 63 degrees.

So what is actually happening to the trout when stream temperatures are zooming up to nearly 63 degrees and, in the evening, when they tumble back toward that mark? They are getting extra shots of oxygen into their bloodstreams due to the rapid increase in gill efficiency regardless of how much is dissolved in the stream water. And it is this extra dosage that enlivens the fish and stimulates them to actively search for food—Whether or not a hatch of flies is on the water.

Similarly, in spring and fall, when temperatures climb up into the 50s, their gill efficiency is again on the rise and pumping extra oxygen into their blood.

Two added factors make the water contain even more oxygen as the temperature rises from 57 to 64 degrees. One is that warming water ***sloughs off oxygen so slowly*** that it is often super-saturated or contains more oxygen than the table shows for that temperature. Also, water weeds, diatoms, and algae on the stream bottom are, by photosynthesis, pumping even more dissolved oxygen into the water and further saturating it. As a result, that 7-percent figure could be nearer to 15 percent during this prime feeding period.

However, during the two hours from 12:30 P.M. to 2:30 P.M.as the temperature climbs from 64 degrees to 67.8 degrees (when fishing and feeding are usually poor), there is, by the same means of calculation, a 22-percent ***decline*** in the trout's blood oxygen. Oxy- gen intake continues to drop or remain relatively flat during the rest of the afternoon until we get to the 6:30 P.M. to 8:30 P.M. period, when the oxygen intake shows an increase of 22 percent. (Actually, the figure is probably slightly lower than this, because cooling water can't take on dissolved oxygen as rapidly. Still, the surge in blood- stream oxygen is impressive.) This may explain why fishing at dusk in summer is so productive.

During spring and fall days, the only period when trout are receiving an extra shot of oxygen is from about 12:30 P.M. to 3 P.M.

For some inscrutable reason best known to the trout, total oxygen intake is not the cause of trout-feeding activity. It is the sudden increase (after certain temperature requirements have been met) that spurs this activity. For example, on cloudy summer days, when the water temperature hovers around the perfect 63 degrees all day long and the trout are getting a steady, maximum supply of oxygen, fishing results and response to batches of lights are uniformly mediocre at all times of day.

It may seem that I have complicated things unnecessarily by going into the oxygen-intake theory when the simple temperature readings alone can tip you off on any freestoner. But for those fortunate few who fish limestoners, spring creeks, and the like and where changes in flow and temperature are often barely detectable, it is a necessary second step. Such streams are usually paved with water weed. Bright sunshine can cause the vegetation to pump extra oxy- gen into the water, making the trout come on the feed suddenly and heavily—even though your thermometer registers little or no change.

It is also interesting to note that there is strong evidence that most (though certainly not all) aquatic insects seem to hatch under similar conditions and in response to the same stimuli. But that's only logical. The genetic strains of wild trout that have survived and reproduced would be precisely the ones best tuned in to their prey's time of greatest availability and vulnerability.

So, after twenty years of observing trout-feeding patterns under relatively controlled conditions, my advice is as follows. Avoid rainy, cloudy

days if you have any reasonable choice. Contrary to the old wisdom, they offer poor fishing. Also, don't consult any of the charts or tables that promise to show good feeding days or hours from a year in advance. They are no better than throwing a dart at the calendar. And don't feel that because the fish haven't been feeding well for two days they must be starving. Trout can go for months with- out food and show no signs of discomfort or agitation. They probably won't feed well on the following day either, unless the weather changes for the better.

Do, however, try to take advantage of the sunny, high-barometer days. And do dip your thermometer regularly to get to know your home river's prime fishing hours, and then make the most of them.

I'll admit that an expert upstream nympher can almost always catch some fish under the worst of conditions. After all, a trout will take a weighted nymph (or a worm, for that matter) if it threatens to bump him on the nose—even though this is more self-defence than actual feeding. However, I find this sort of fishing extremely hard work that demands excruciating concentration. I have more fun and catch far more trout when they're willing to come up off the bottom and take a fly with relish and confidence.

If you watch the weather and your thermometer carefully and fish when the trout are most likely to feed, you'll come to expect better fishing – *if* you don't let minor duties and obligations interfere with something as crucial as your trout fishing.

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