

Subject: : Conservation

Topic: : Cold Water Streams vs Warm Water Streams

Re: Cold Water Streams vs Warm Water Streams

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URL:

Practically speaking, "coldwater fish" consist of trout, salmon, whitefish, and grayling- all of which prefer water temperatures below 70 degrees.

Brown trout and rainbow trout can tolerate water up to the low-mid 70s, but it isn't good for them.

Brookies really want temps below 65 degrees F. And 68 is about the limit for them. Some sources say 70, but I've never known of a wild brookie stream that ran that warm, even on the hottest day of the summer.

"Warmwater fish" can tolerate cool water temperatures, but they prefer habitat conditions with water temperatures between 70 and 80 degrees during their prime growing season, in the spring and summer. (Stream water rarely gets much over 80 degrees, and most warmwater game fish prefer temperatures slightly cooler- more like 72-75 degrees.)

Therefore, a cold water stream habitat typically remains below 70 degrees year round.

A warm water stream habitat typically runs between 70 and 80 degrees in the late spring and summer.

A stream like Penn's Creek above Weikert is considered a cold water habitat even though the average water temperature often rises above 70 degrees in the summer, because it has enough stream tributaries and springs contributing water at colder temperatures to allow coldwater fish to hold over and survive. But almost all anglers decline to fish Penn's in the heat of July and August, because the temperatures are typically too marginal for trout to survive the strain of being caught.

The biggest reason for the difference between coldwater and warmwater fish species is that the coldwater species require more dissolved oxygen in the water, and colder water retains more dissolved oxygen than warm water. Trout and salmon prefer a mix of around 10 parts oxygen to a million parts water. Warmwater fish are fine with 5 ppm (parts per million) or even a bit less.

Oxygen "dissolves" in water from the air above the surface- which is why trout often like to hold in plunge pools and pocket water, because fast currents like that pull air bubbles into the water and help to dissolve more oxygen. But bubbling rapids alone aren't enough to support trout- the water temps have to stay low enough that the water can store enough oxygen to keep the levels around 10ppm. Trout start to die off below around 5ppm DO, that's about the bare minimum for survival for them. They're basically gasping for breath at that point. A heat-stressed trout in summer usually settles low in the stream without moving much of anything except for it's gills, which fan in and out as if it's panting for breath. Which is pretty much what's happening.

This is one reason why anglers like to carry stream thermometers.

Thermometers can also tell when the best feeding and insect hatching temps are. Trout are usually most active in water between 50 and 65 degrees. 55-60 degrees F is about perfect. Smallmouth bass seem to like it best right around 70-75 degrees F.