



Hike and Learn

Trout Food in Small Mountain Streams

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TROUT FOOD IN SMALL MOUNTAIN STREAMS

What do trout need to live?

Trout need cold, clean water; food and adequate cover from predators. Like humans, fish need to eat enough food to stay healthy. To survive in the long run, trout need to consume more food than the amount of energy they expend to feed and swim. Unlike humans, trout do not have food supplied to them at a dinner table or cafeteria. They need to hunt, find, and go after their food, which means trout are **predators** and the food they eat in the wild is **prey**.

- **Cold water:** Water temperatures at or above 70 degrees (F) can harm or even kill trout over time. Warm water can make trout sluggish, which makes it harder to expend energy to eat normally. As a result, in warm water trout may conserve energy and feed only in the late evening, at night or early morning when the water is cooler.
- **Clean Water:** Runoff or **erosion** dirties water and makes it harder for trout to see their prey, so feeding can be difficult. Also, dirty water absorbs sunlight and heats up faster, which can cause dangerously high temperature affecting feeding as mentioned above.

- **Types of Food or "Prey":** Trout will eat insects on or below the water's surface, crayfish, worms, leeches and other fish. In small mountain streams, availability of food is always a problem. For that reason, trout in small mountain streams do not grow fast and they are not big fish. Also, trout in small streams are "opportunistic" eaters -- they will try to eat almost anything that comes their way because they may not see more food coming down the stream for a while. If they get a chance, the tiniest trout sometimes try to eat food nearly their own size!

For example, trout may come upon and try to eat a **crayfish**, which is a difficult and potentially dangerous prey, but one that may fulfill nutritional needs for days. Another meal may be an **aquatic worm** or an insect in the form of a **nymph** or **pupae** below the surface, and the next food that comes along may be an ant or beetle on the surface. If bigger bugs are not available, trout may need to eat a lot of tiny **midges**, **mayflies** (see Fig. 1), or **caddisflies** on the surface, expending precious energy every time they swim up to eat such a small bit of food. But trout keep at it because finding food is a matter of survival.



Figure 1-- Mayflies (of the Order *Ephemeroptera*) are primary trout foods. They are tiny insects that begin life in the water and emerge as adults to reproduce. Because they are so small, trout must eat a lot of them to meet their feeding needs.

- **Cover (see Fig. 2):** All the while, trout must be careful to be at or near cover so they do not become a meal for a predator such as a **heron**, **mink**, **otter**, or **kingfisher**. Trout are themselves prey for many species of birds and mammals, including man. Because they are preyed upon, Trout can be "spooked" or scared into hiding by the slightest movement or shadow within their field of vision. Their eyes are ideally positioned to be able to look above, in front, and to the sides. The color and spots of a trout is a type of camouflage that helps hide them from searching eyes, but not enough for the trout to always feel safe in the open. Trout seek cover of rocks, logs, and overhead branches and bushes.



Figure 2 -- Undercut banks, shadows, fallen logs and even waterfalls are among the many types of cover trout use to protect themselves from predators.

Trout are also said to use cover called "**holding lies**," which are places they are sheltered from current. Trout may hold in a place to feed or to provide cover or both. Most trout have a place they will swim to for safety if they feel threatened. The life of a trout in a tiny stream is constantly interrupted by shadows and flashes of movement, some dangerous, and some not dangerous, all of which send the trout scurrying to cover of rocks, ledges, and logs. This often interrupts feeding until the trout feels safe. It would be like a student trying to get your lunch in the cafeteria while playing a life-or-death game of dodge ball. Keeping away from the dodge ball is always the top priority, which makes getting enough food very hard.

Camouflage: As mentioned above, the spots and coloration of different types of trout provides [camouflage](#), which helps hide them from predators. Trout coloring can change based on where they live to make the camouflage more effective. Coloring (and the trout's physical appearance) can also change during mating season. Wild fish (born in a stream rather than a hatchery) tend to have more vivid colors and patterns than hatchery-born fish.

Note: The trout in the streams around Three Forks are almost certainly wild or stream-born trout. Rainbow trout and brown trout were introduced to these streams many years ago. Brook trout are native fish to this area, but some of the fish in these streams may have been placed there by man to reintroduce lost or depleted populations of brook trout. For more information, see [Back-the-Brookie](#).

Why are feeding habits of trout in small, remote streams different from how they feed in lakes and rivers?

Trout habitat can be far from civilization or right in the middle of it. For example, trout exist in the Chattahoochee River near downtown Atlanta because man put them there and the river at that location is a [tailwater](#), meaning it is a riverway downstream from a dam/lake and has a ready supply of cold water. The Toccoa River below Blue Ridge is a tailwater. A pond or lake can also hold trout if the water is cold enough. Trout in rivers, ponds, and lakes generally have more food to eat, some of which is a form of trout chow put in the river by landowners along the river to keep the fish healthy. For that reason, feeding habits in a pond or lake or a river can be very different than a small mountain stream because of the amount of food and type of food available to fish.

Observations on trout food

If you take the time to observe trout streams, you can sometimes see fish feeding.

If you watch from a distance (so the trout do not see you or your shadow), you can sometimes see trout rise to the surface in either slow or fast water to eat bugs at or near the surface. Insects may be caught in the **surface film**, making them easy and desirable prey. When a trout comes to the surface, it sucks in the prey by pulling water through its gills, and then it returns below the surface. What is left is a tiny wave that creates an increasing circle on the surface, almost like when you throw a pebble in the water, except there is only one wave. Fishermen call this a "**rise form**." Some fishermen who study trout feeding say they can tell the stage of the [biological lifecycle](#) of the bug the trout is eating by the type of rise (splashy, calm, or "sipping" rise). Keep in mind that trout are not the only fish that rise to the surface. A rising fish may be a minnow, chub, sucker or other stream fish.



Figure 3 -- Can you see the trout in this picture? It's just under the surface of the water, slightly left of center. The spot pattern on its back closely matches the pattern of the gravel on the bottom of the stream.