



# TROUT UNLIMITED

# Stream Explorers

Stream Ecology Issue

**T**ROUT Unlimited (TU) is an organization of volunteers and staff across the country dedicated to saving trout and salmon and the rivers where they live. We do this by working with others to protect the most important trout habitat, fix dams and pipes that block fish, and repair rivers damaged by pollution or development. TU also teaches kids and adults why trout and clean water are important. To find out more or to join TU, go to [www.tu.org](http://www.tu.org).

## How Tough Are Trout?

Just like people, streams and lakes can be healthy or sick.

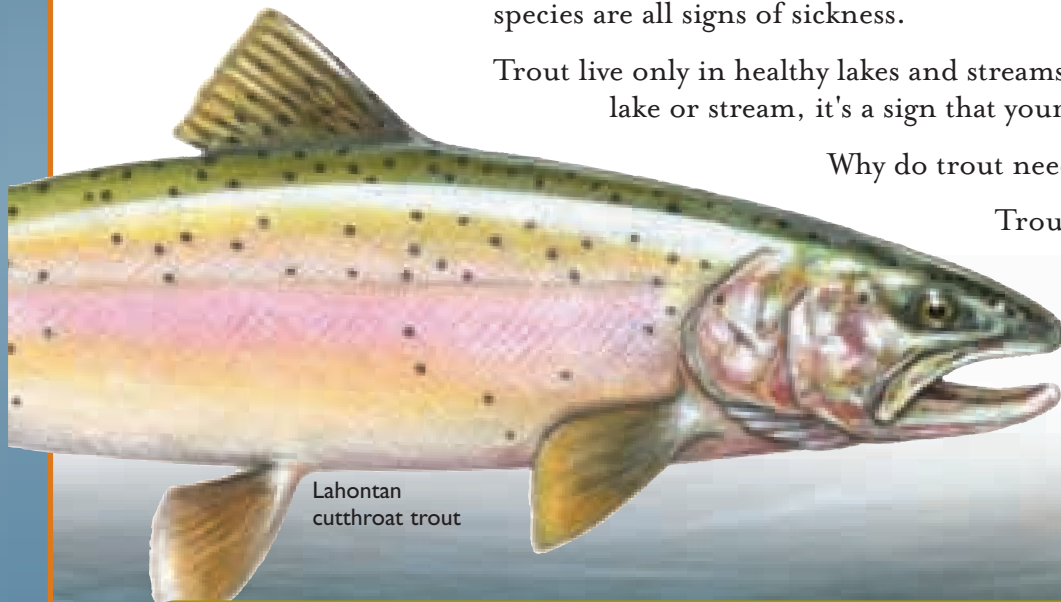
A healthy person looks and feels strong and fit. They eat well, sleep well, and get plenty of exercise. A healthy trout stream or lake looks and is clean, cool, and full of many different types of living things.

People often show their sickness by coughing, sneezing, or running a fever. You can tell a person is sick just by looking at him or her – and the same is sometimes true of a lake or stream. Dirty water, trash, and too few animal species are all signs of sickness.

Trout live only in healthy lakes and streams. So if you find a trout in your lake or stream, it's a sign that your lake or stream is in good health.

Why do trout need healthy, cool lakes and streams?

Trout get sick in polluted water. They also need certain types of food – mainly animals, like insects, crayfish, and smaller fish – that live in healthy, cool water. When the water gets polluted, trout food dies, and so do the trout.



Lahontan cutthroat trout

## INGREDIENTS FOR A HEALTHY LAKE OR STREAM:

**Clean water** Clean may mean clear, but it also means clean smelling, trash free, and pollution free.

**The right pH level.** The pH level is a measure of how acid the water is. Too much or not enough acid, and most animals (including trout) will die.

**Cool water** Trout need cool water that comes from a spring or melted snow, for example. The water stays cool as long as it is shaded by trees or bushes and it keeps flowing quickly.

**Natural stream or lake bed.** Healthy streams have rocky or pebbly bottoms and make lots of twists and turns. Rocks, pebbles, and nooks and crannies provide safe hiding places for baby insects, fish, and other animals, plus good places for trout to lay eggs.

**Away from lawns and farms.** Lawns and farms are important to people, but the fertilizer we use to keep them green and growing can hurt fish and other water animals. Leaving trees and other plants growing tall by the streamside can catch those chemicals and keep them out of the water.

# TROUT TREATS

Trout can only live in healthy waterways where there is plenty of trout food.

Many of the animals in this picture can be trout food - but which do trout like best?

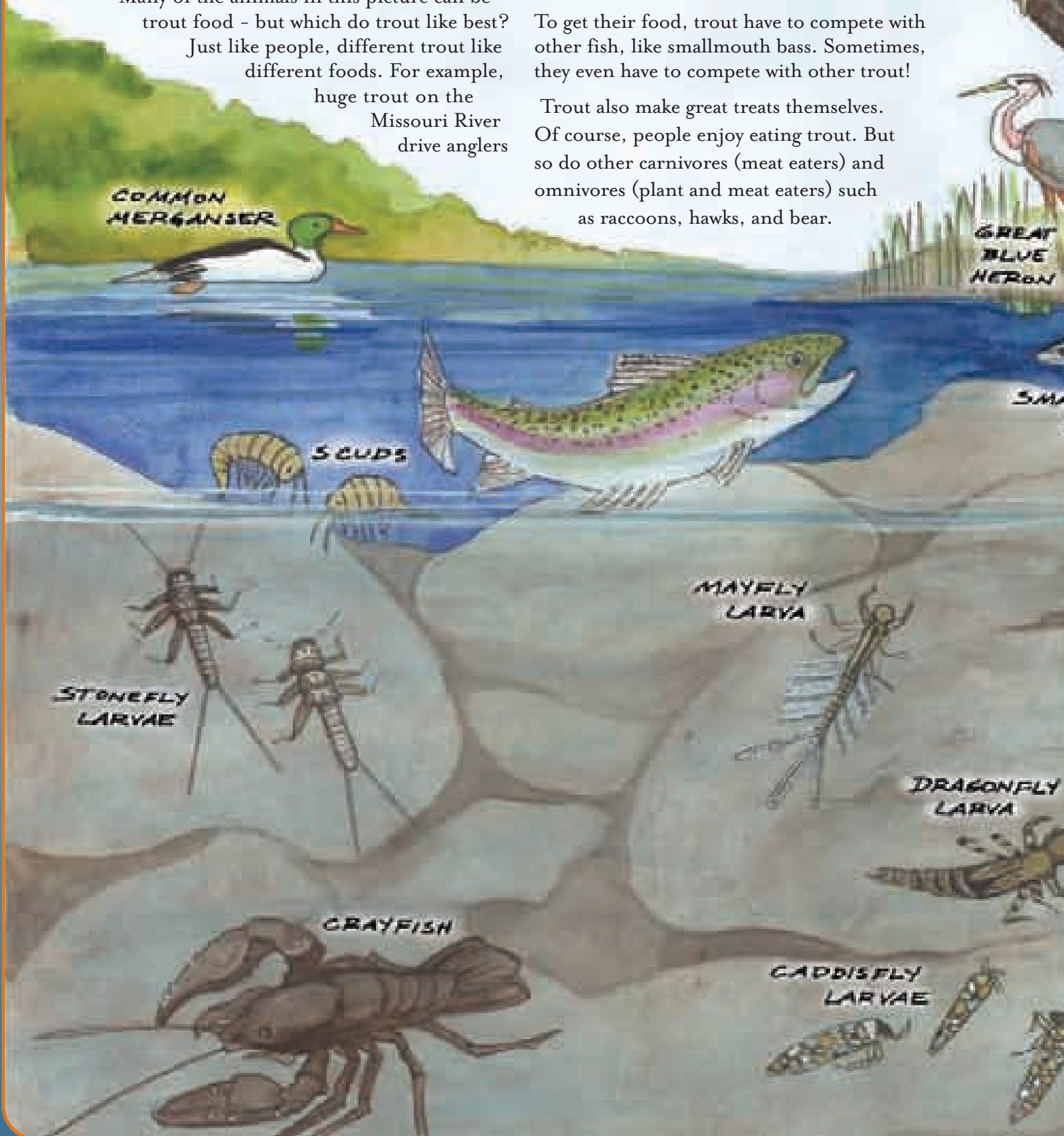
Just like people, different trout like different foods. For example,

huge trout on the Missouri River drive anglers

crazy because they sometimes won't eat anything but midges. Other trout love crunchy crayfish.

To get their food, trout have to compete with other fish, like smallmouth bass. Sometimes, they even have to compete with other trout!

Trout also make great treats themselves. Of course, people enjoy eating trout. But so do other carnivores (meat eaters) and omnivores (plant and meat eaters) such as raccoons, hawks, and bear.



GRASSHOPPER

MAYFLY

CADDIS FLY

RIVER OTTER

SMALLMOUTH BASS

MINNOWS

LEECHES

# What eats What?

Some birds, like herons and mergansers (a kind of duck), eat trout. So do some mammals like otters and bear. Trout eat almost any smaller animal, including insects, crayfish, and tiny fish. Take a close look at this picture, and see if you can figure out what eats trout, and what trout eat. Check your answers at [www.streamexplorers.org](http://www.streamexplorers.org)!

Trout Eat These
<i>Flies</i>

These Eat Trout
<i>Otters</i>

# Sick Stream?

Is this stream healthy or sick? One way to find out is to collect and identify the insects and other tiny animals that live in and around the stream. Some of these animals need healthy streams to survive. Others can survive in the worst conditions.

If you find lots of "healthy water only" animals, you can bet your stream is in good shape. If you find only dirty water dwellers, your stream could probably use a clean up.

So... is this stream healthy or sick? Play "Catch the Critter" to find out!



## Play Catch the Critter!

You'll find copies of animal pictures and game instructions at [www.streamexplorers.org](http://www.streamexplorers.org). Print them, cut them out, and play the game. Is your stream clean or dirty? Healthy or sick? The person with the healthiest stream wins!

## Rhyming Riddles:

Try answering these riddles yourself. Then, check out your answers at [www.streamexplorers.org](http://www.streamexplorers.org)!

Trout may not be very wealthy, but their favorite streams are \_\_\_\_\_.

When lakes are dirty there's a solution: it's time to clean up the \_\_\_\_\_.

Underneath the silvery moon, trout are eaten by \_\_\_\_\_.

Because leaves cause the sun's heat to fade, for streams to stay cool, they need lots of \_\_\_\_\_.



GET WET

If you live near a real stream or lake, you're in luck. You and an adult can actually monitor the health of your local waterways with nothing but two sticks, a net, and a magnifying glass. Scientists use this method, and people like you can help monitor their local waterways and share their findings with the scientists. To find out how to build a real kick-net and become a citizen scientist, go to [www.streamexplorers.org](http://www.streamexplorers.org).



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