

## The Impact We Leave Behind

“Progress is impossible without change, and those who cannot change their minds cannot change anything.” As small as it may seem, it's important to notice the details that make up the environment we live in. The life we are given needs a sense of purpose and in order to feel that, we need to take care of the ones on our planet. Notice how visible the options in front of us can be. How simple a cause and effect reaction can be taken into place? To be part of a much larger ecosystem rests a heavy weight on the shoulders of organisms alike. We rely on each other to live, and when the system is unbalanced, we all fall apart. For example, change your perspective into the point of view of trout. On a larger scale, there are three major species of trout here in North Carolina alone. There are far more, others worldwide ranging in either saltwater or freshwater. Likewise, the conservation of trout affects not only the fish itself but the things that surround it. Having a sustainable habitat for the fish maintains a steady livelihood here where we live as well as places we don't. In order to demonstrate the importance of trout, we need to understand the life cycle of the species, where habitats are located, and how we manage the threats that surround the fish.

Trout have similar life cycles to follow through with and having the knowledge benefits us into providing positive changes throughout its life. We start with the eggs and go from there. The reproduction varies between the species but likely the cycle is seasonal. Eggs will usually be laid during the fall and winter to hopefully hatch in March and April for a plentiful amount of food available or vice versa. Using a tail fin, a place for the eggs are made known as a redd. Milt from the male will then cover the eggs in order to fertilize the fish. Depending on water temperature, the days leading up to hatching can range from forty four days to one hundred forty four days. The tadpole like fish stay close to the ground away from predators until old enough to swim to higher ground. Any indication of spots from juvenile years will disappear and the trout become adults. Features specify the type of trout and with this information, we'll know how to aid their lives. Details like color of scales, certain fins, and the way a fish carries itself throughout its life are

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demonstrations of how anatomy affects the livelihood of the trout. This cycle of reproduction repeats and gives a healthy population for numerous streams.

The location of trout plays a significant factor in the adaptations the fish can make. The surroundings determine how the trout reproduce and if the offspring will survive. The habitats trout occupy are cold water streams that support them from predators. The area surrounding the stream, known as the watershed affects the lives of the trout. As a working ecosystem, everyone affects everything and it's important to know what benefiting and what's not. For example something that happens outside of a stream will most definitely affect the organisms inside the stream. If we discover the disadvantages in an untimely manner, the ecosystem will be unbalanced. The water most trout occupy are rocky streams that flow into tributaries. The new source of water then carries sediment and soil particles into the stream. Chemicals like oil and fertilizers can affect the fish in a negative way. Notice how details like water flow can uncooperatively influence the lives of trout. Of course adaptations can be made if the environment is incorrect, but only so many changes can be made. Trout simply can be designated as a single piece in a machine. All the pieces must work together in unison. If a piece is missing or fails to support the other, the machine breaks and in this case, the ecosystem becomes disturbed.

Through reproduction and protecting the ecosystems that have been made, to conserve what we have will truly benefit everyone in the days ahead. There is no higher bar when asked the question what's more important in the ecosystem trout are a part of. Conservation is supported by so many because of how easily an impact can be made. Knowing what you have will improve your discoveries as you help your environment. Simply going to a stream and cleaning litter from the land surrounding it benefits the organisms in the waters and out. Along with that, conserving water plays a major role in trout ecosystem and serves as a everyday purpose. The water we have on Earth is all we have left. The streams the trout occupy are homes providing shelter and life. If you take it all away, the fish will not survive and other animals that consume fish won't thrive either. Change is bound to happen and nothing will

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prevent various outcomes. If a contrasting concept can counteract these changes, negative outcomes

can be prevented. It's only a matter of choosing to conserve or change previous actions. By consistently following through with conservation strategies, a positive impact will showcase itself in the days to come.

In order to demonstrate the importance of trout, we need to understand the life cycle of the species, where habitats are located, and how we manage the threats that surround the fish. An outline for a plan starts somewhere small and becomes a collection of ideas to follow through with. A happy medium can be found when an ecosystem becomes balanced. By paying attention to the fish in its environment, we know what to protect and determine actions leading up to new decisions. Everything that is done leaves an imprint on our planet. Almost like a timestamp, scientists can look back on what we once had. Decisions correspond to what already is known. So many will convince you to spark a change, but you have to embark that choice within yourself. The livelihood of trout is far greater than just another species in an ecosystem. Small details make up various habitats, biotic or abiotic. We need distinct details like this to see the entire view and we just have to be willing enough to look.

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