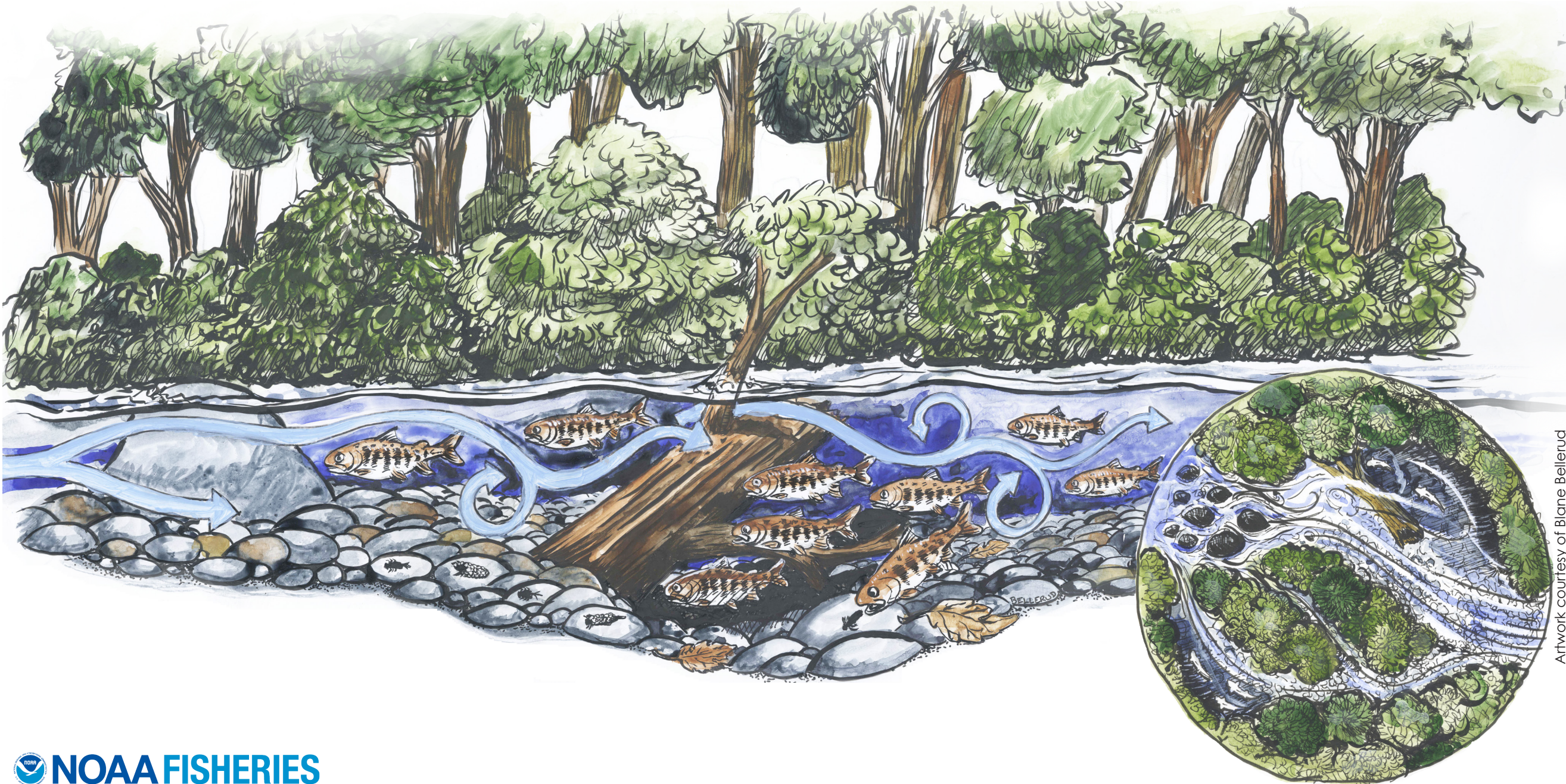
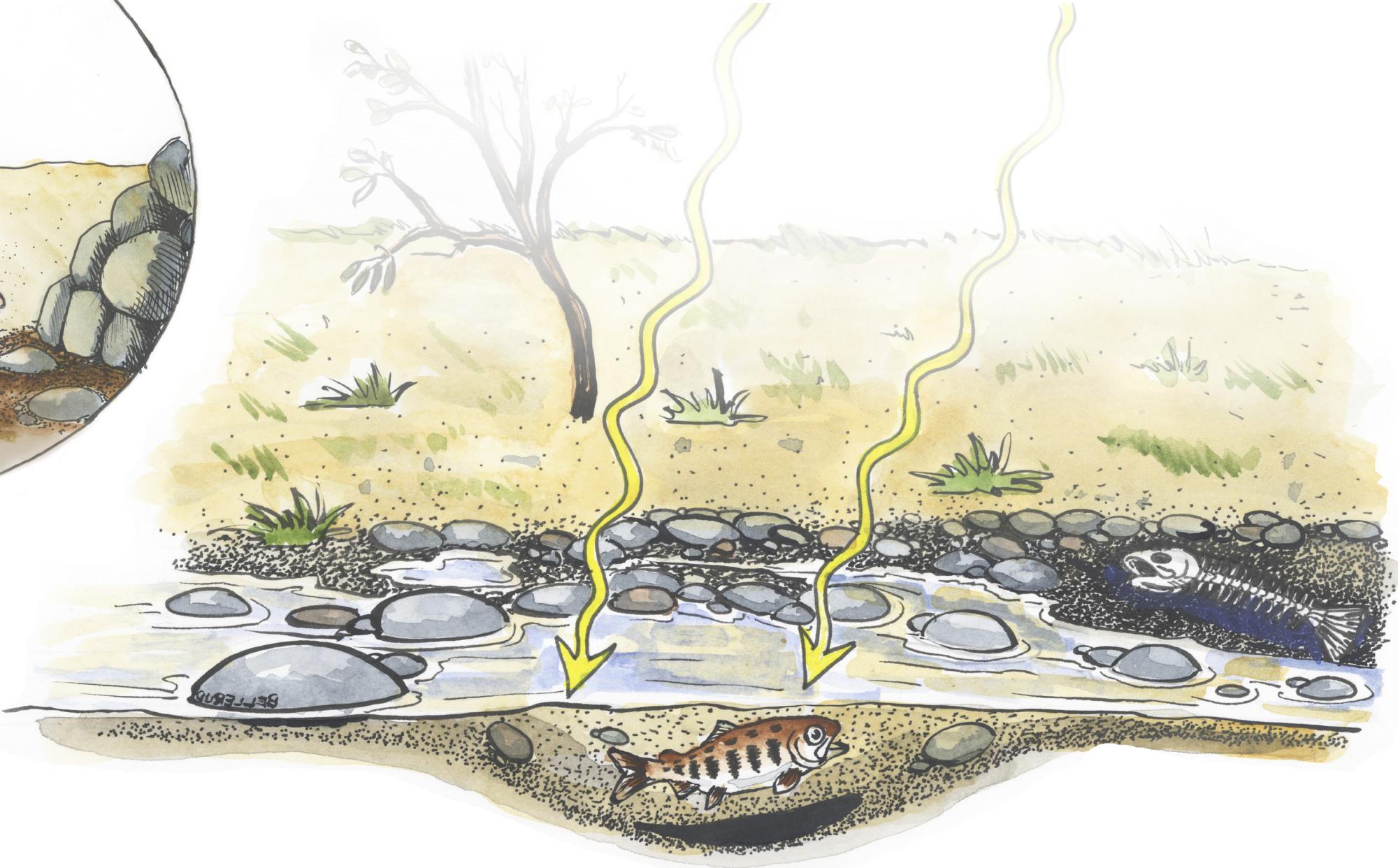
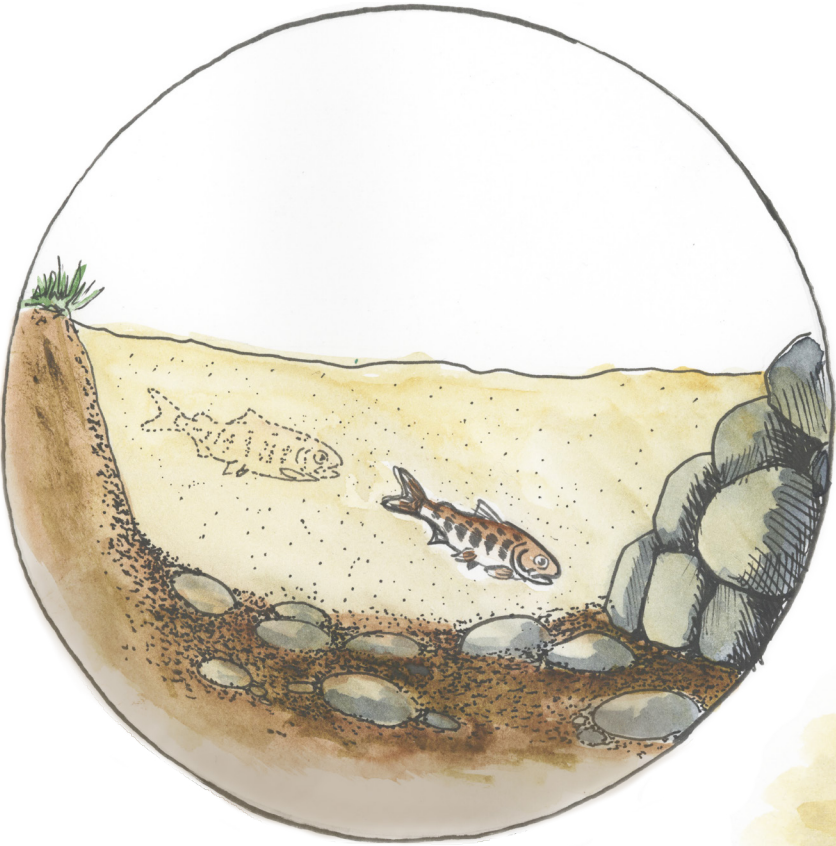


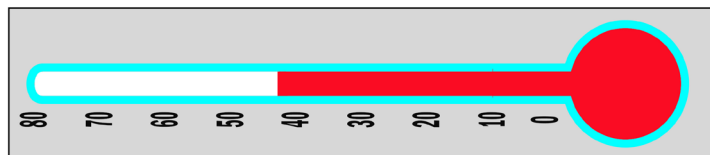
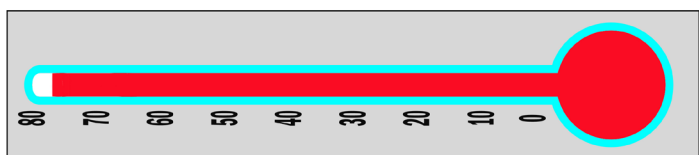
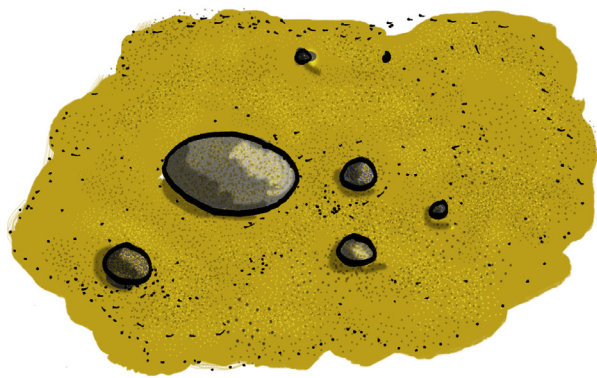
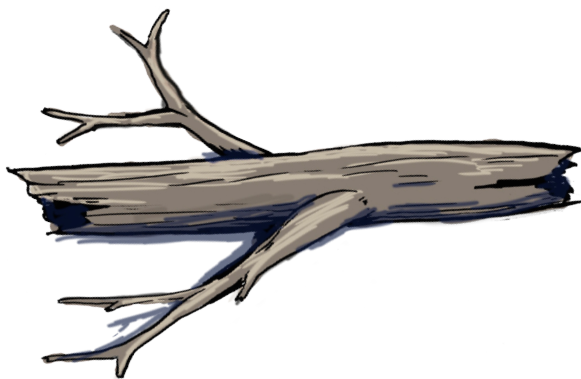
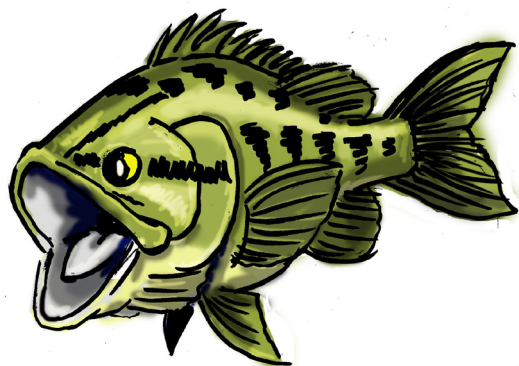
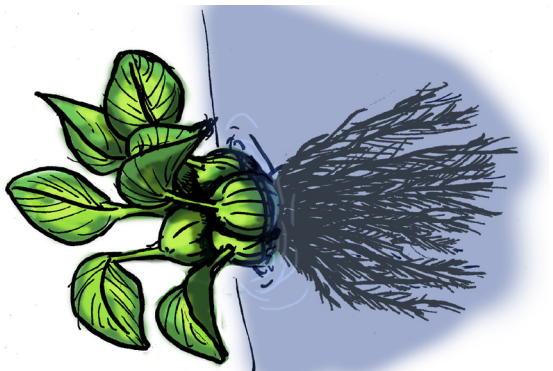
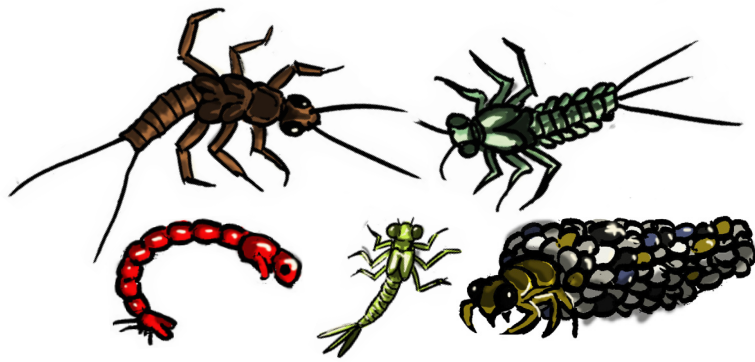
# GOOD HABITAT



Artwork courtesy of Blane Bellerud

# BAD HABITAT





## **Invertebrates**

The mayflies, stoneflies, snails, clams, and other invertebrates that live in streams and rivers are indicators of a watershed's health. Healthy streams have an enormous diversity of aquatic species.

Young salmon and steelhead eat larval and adult invertebrates.

## **Gravel**

Gravel beds provide important spawning areas for many aquatic species, including salmon and steelhead. Gravel also supports many different types of invertebrates that young fish eat.

## **Fallen Trees**

Fallen trees create pools that protect young fish from predators. They also direct stream flow, and can create places for fish to rest from strong currents.

Fallen trees also trap organic matter that provides food and shelter for aquatic insects.

## **Native Plants**

Native plants help maintain cool water temperatures. They can also act as filters, by preventing pollutants from entering streams and rivers. Their roots stabilize soil and prevent sediment from entering the water.

Plants can also shield young salmon from predators.

## **Cold Water**

Salmon eggs may not hatch if water temperatures rise above 54°F (12° C). When water temperatures are greater than 61°F (16° C), juveniles grow more slowly, making them more susceptible to predators.

Cold water also contains more dissolved oxygen and can reduce the spread of disease.

## **Contaminants**

Contaminants from industrial, domestic, and highway runoff can make their way into waterways. Some contaminants can kill salmon, stunt their growth, and impair their reproduction.

## **Invasive Plants**

Invasive plants can outcompete native plants and destabilize soil. Some invasive plants, like water hyacinth, block light and greatly reduce oxygen levels in the water. Other invasive species, like Japanese knotweed, can quickly invade restored salmon habitat.

## **Invasive Fish**

Invasive fishes can spread diseases, prey on native species, and outcompete native fishes for food. Some invasive fishes can even decrease water quality. For example, common carp uproot plants and muddy the water. This makes it harder for other fish to see and can destroy food sources and shelter for other fish.

## **Sediment**

Construction, timber harvesting, mining, and farming can destabilize soil and move sediment into waterways. Sediment can smother fish eggs, aquatic insects, and plants; increase water temperature; reduce light penetration and plant growth; prevent fish from locating and capturing prey; and clog fish gills.

## **Warm Water**

Sustained water temperatures above 68°F (20°C) can stress young salmon, increase the risk of disease, and keep adult salmon from reaching their spawning grounds. Water temperatures above 73°F (23°C) can be deadly.