Steelhead trout are anadromous. That means they migrate from freshwater streams and lakes to the salty sea and back again. The journey from fresh water to sea is hard work. Trout must change their bodies so that they can breathe, float and eat in the ocean. The journey back is even harder. Read the article to find out more about this trout’s Amazing Anadromous Adventure!

Have you ever tried swimming against a current? If so, you know it’s hard work. Sometimes it’s almost impossible.

Every year, though, steelhead trout do just that. They swim against currents and through all kinds of dangers to return to the streams where they were born. It’s not easy.

The steelhead’s upstream adventure begins where the river meets the sea. Before they start their journey, these trout must change their bodies. They have been living in salt water, but now they’ll become freshwater fish again. They change their gills so that they can collect oxygen from fresh water. They change the food they eat, switching from seafood like shrimp and small fish to insects like caddisflies and mayflies. They even change the way their bodies float in the water, because it’s much harder to float in fresh water than in salt water.

Then, the trout must wait until the rivers are flowing fast and cold after winter snow melts. To find their way, trout rely partly on their keen sense of smell. Each stream has its own scent, and steelhead remember the special smell of the stream they were born in—that’s where they’re headed.

On the way, migrating trout actually leap over waterfalls. Often, they have to climb up fish ladders to get around human-made dams. All along the way, predators lie in wait for the tired fish. One mistake, and the migrating trout are supper for a hungry sea lion, bear or eagle.

When the trout finally arrive at their spawning grounds, they’re exhausted. They barely have enough energy left to build their redds (nests) and lay their eggs.

Why do steelhead trout work so hard? Each year, they travel to the sea where they can eat enough food to grow big and strong. But trout can’t build nests or lay eggs in the ocean. Instead, they must return to the clear, cold, rocky streams where they were born.

No one has to tell the trout what to do; their instincts tell them when it’s time to leave, and when it’s time to come home. Steelhead trout just know what they have to do to have healthy young and complete their life cycles. And every year thousands and thousands of new steelhead trout hatch to repeat the cycle all over again.

What does it take for a steelhead trout to travel up the Columbia and Snake Rivers?

- They must travel up to 900 miles – the distance from Washington DC to Disney World in Florida!
- They must swim upstream against strong currents. Some spawning ground is more than a mile above sea level.
- They must pass eight dams on the Columbia and Snake Rivers, finding and swimming up fish ladders.

It’s not easy being a steelhead.
What’s it like to be a steelhead headed upstream? Find out by playing this game!

How to Play: Each player will need an object to move around the board – coins and buttons work well. You’ll also need one die. Roll the die once each; the highest roll starts. Roll to move your piece around the board. If you roll 1 or 2, move one space. If you roll 3 or 4, move two spaces. If you roll 5 or 6, move three spaces. Can you avoid delays and dangers and get to the spawning grounds first?

START HERE
Say goodbye to sharks!
Leave the ocean and follow your sense of smell upstream.
What is a fish ladder?

We build dams on rivers to generate power or create reservoirs. But trout and salmon can’t get past the dams to return to their spawning grounds. To allow fish to get through, we build fish ladders. Using fish ladders, trout and salmon can swim and leap from pool to pool, climbing up and over the dams.
Fish and Fragrance

Steelhead trout actually sniff their way home from the sea using their incredible sense of smell. Could you do the same thing? Actually, human noses are nowhere near as powerful as trouts’ nares (smelling organs).

Try this:
- Pour ½ cup of water into each of four containers
- Put one drop of perfume or extract of vanilla or peppermint into the first cup
- Put two drops of perfume or extract into the second cup
- Put four drops of perfume or extract into the third cup
- Put eight drops of perfume or extract into the fourth cup
Label each cup with the number of drops of perfume or extract you added.

Now mix the cups up, keeping the labels hidden. Try sniffing each cup. Can you smell the perfume or extract? How many drops of perfume or extract per ½ cup of water did you need to identify the smell? Try having another person take the same test. Were their sense of smell as keen as yours?

Now imagine putting that ½ teaspoonful of perfume or extract into a whole river. Do you think you could sniff it out? Amazingly, trout can smell much weaker scents in much more water!