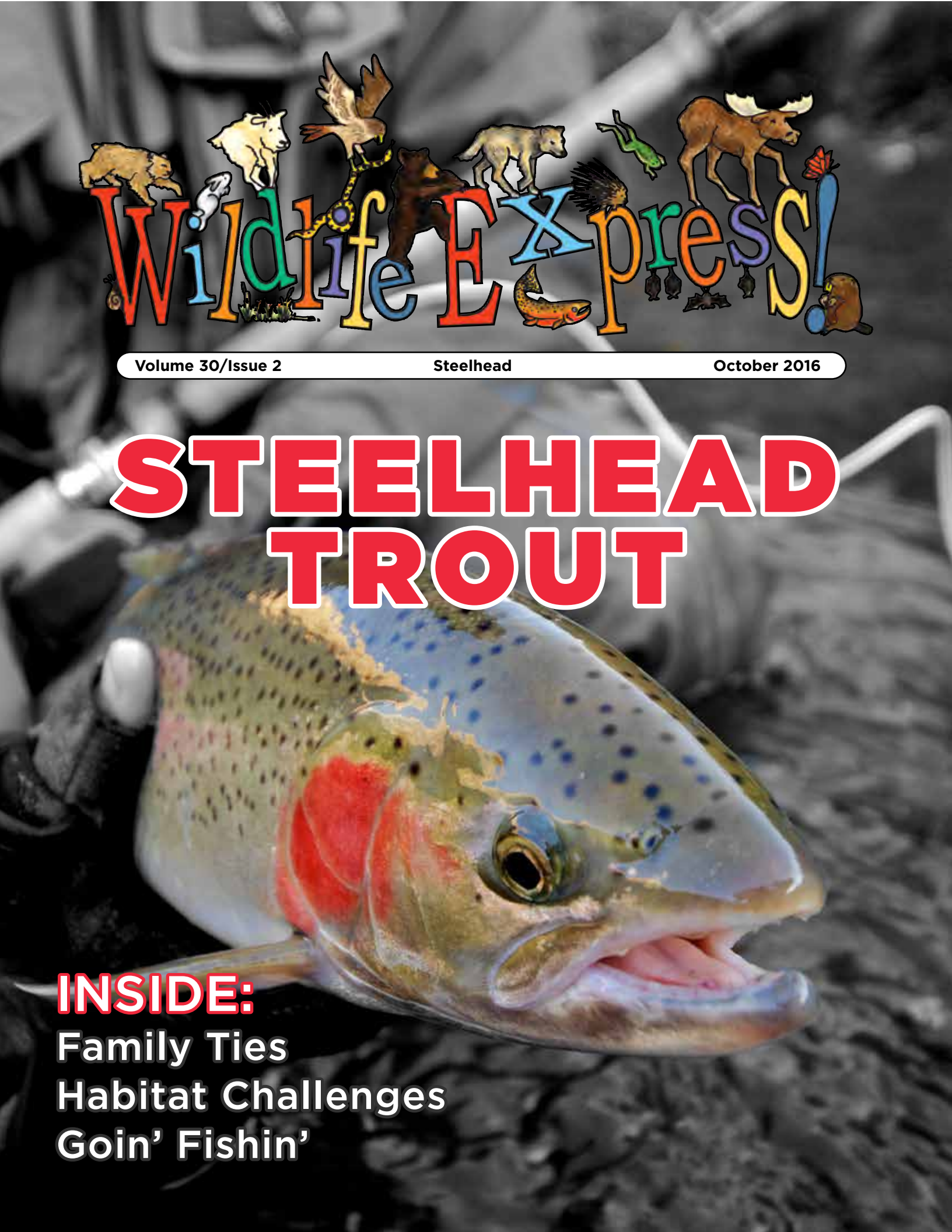

Volume 30/Issue 2 Steelhead October 2016

STEELHEAD TROUT

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SENSATIONAL STEELHEADS

Have you ever heard of a steelhead before? You may have heard it called a steelhead trout. What about a rainbow trout? If you have ever gone fishing, you have probably caught a rainbow trout. Steelhead and rainbow trout are the same fish. They both have the scientific name *Oncorhynchus mykiss* (ON-core-ink-us MY-kiss), so why the different common name?

Even though rainbow trout and steelhead are the same fish, they behave a bit differently. Steelhead act more like salmon. Just like salmon, steelhead are anadromous (ah-NAD-ruh-mus). That means they travel from the rivers where they hatch to the Pacific Ocean to feed and grow. Then they migrate back to where they started their lives to reproduce. Rainbow trout do not migrate to the ocean.

Steelhead start their lives in Idaho's cold streams and rivers. They leave their gravel nest, called a redd, in springtime. When they are very small, they eat tiny animals in the water called zooplankton. When steelhead get bigger, insects, small fish and fish eggs are also on the menu. Steelhead stay in the stream for one to five years. Then one spring day, they get the itch to travel. Longer days, warmer water temperatures and rivers swelling with melting snow trigger the steelhead to go to the ocean. They are six to eight inches long when they start their westward journey.

Steelhead stay in the ocean one to three years. The longer they stay in the ocean eating shrimp, squid, anchovies and herring, the bigger they grow. If they spend one year in the ocean, they will weigh about four to six pounds. If they stay two years in the ocean, they will weigh ten to 14 pounds. Three years will help them pack on 20 pounds or more!

The urge to breed brings steelhead back to Idaho. After spawning or laying their eggs, some steelhead will die but not all of them. Some steelhead will live and travel back to the ocean. Not many will return to breed a second time. The trip to the ocean is a long and difficult trip.

Wild steelhead are considered a threatened species in Idaho. There are not many wild steelhead left. Rainbow trout numbers are not low at all. Why have steelhead numbers gone down, when rainbow numbers have not? The reason is the same one that makes rainbow trout and steelhead different. Steelhead travel to the ocean. They use more than one habitat throughout their lives. Changes to even one habitat can make it harder on steelhead to survive.

Steelhead really are an amazing trout. They travel to the ocean and back. That's pretty incredible!

FAMILY TIES

Scientists love to group things together. Plants and animals that are similar to each other are put into groups. Fish are no different.

Steelhead are in a group of fishes called salmonids (SAL-mon-ids). Salmonids are fishes that look like salmon. The salmonid group includes salmon, trout, char, graylings and whitefishes.

Salmonids are found all around the world. Scientists have divided them into two main groups. One group is the genus Oncorhynchus (ON-core-ink-us). These fish are called the Pacific group of salmon and trout. Can you guess which side of the United States you might find these fish? The other group is the Salmo (SAL-mo) group. These fish are the Atlantic group of salmon and trout. How did we get these two different groups?

At one time, the Pacific and Atlantic fishes were all in the same family. They lived in the waters around the North Pole. Then about 15 to 20 million years ago, some of the fish moved to the Pacific Ocean side on the world. Others moved to the Atlantic Ocean side of the world. Over many thousands of years, these fish explored new areas and adapted to new waters. Their offspring became the many species of trout and salmon we have today.

At one time, scientists placed our steelhead, rainbow trout and cutthroat trout in the Atlantic group. This may seem strange, because we are closer to the Pacific Ocean then the Atlantic Ocean. The reason scientists put the fish in this group was because, at least on the outside, the fish looked more like fish found in the Atlantic group.

In 1989, scientists decided to take a closer look at our steelhead and trout. They looked at the bones in their heads and how their teeth were arranged. What they discovered was that the bones and teeth looked more like the bones and teeth that were found in the Pacific group and not the Atlantic group. Our steelhead, rainbow trout and cutthroat trout were in the wrong group! Scientists gave our fish new scientific names and moved them into the Pacific group of salmon and trout. Now they are in the right group with their family members.

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MINDING YOUR *As and Bs*

Have you ever heard someone talk about A-run or B-run steelhead? There are many types of steelhead in the world. Idaho's steelhead are put into two different groups based upon how much time they spend in the ocean and how big they get.

Idaho's A-run steelhead are usually only found in the Snake and Salmon Rivers. They return from the ocean between June and August. This is earlier in the year than the B-run fish. They spend only one year at sea. Because A-run fish spend less time at the seafood buffet, they are generally smaller than B-run fish. A typical A-run steelhead will weigh four to six pounds and measure 23 to 26 inches.

The B in B-run steelhead stands for big and beastly! The B-run fish of the Clearwater River are famous for their size. They are some of the largest steelhead in the world! The Idaho record steelhead was a B-run fish. It was a little over 30 pounds and 44 inches long!

B-run fish are found not only in the Clearwater River but also in the Salmon River. B-run steelhead are bigger than A-run steelhead because they spend more time in the ocean. They usually spend two years in the ocean and start their migration in August or September. That extra year in the ocean helps them pack on the pounds. Average size B-run steelhead weigh between ten to 14 pounds and are 31 to 34 inches long. Some B-run steelhead spend three years in the ocean. They weigh more than 20 pounds and can be over 40 inches long.

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THE BIG SWITCH

Steelhead are anadromous (ah-NAD-ruh-mus). That means they hatch in freshwater then travel to the ocean to feed and grow. They then travel back to the stream where they hatched to reproduce. They go from living in freshwater to living in saltwater. That is a big change!

Steelhead that are traveling to the ocean are called smolts. To get their bodies ready for living in saltwater, steelhead go through something called smoltification (smolt-i-fi-CA-shun). Smoltification gets the fish ready for the big salt bath they are about to take.

If you have been swimming in the ocean and opened your mouth, you've gotten a taste of that salty ocean water. Salt is a good thing. We all need it, but we need it in the right amounts. Too little or too much and our bodies don't function well. The salt and water in our bodies must stay balanced. Smolts have a trickier time regulating their salt in the right amounts. They have two different environments they live in – the almost salt free streams in Idaho and the salt rich ocean.

In freshwater, smolts get the salt they need from the water. There is not very much salt in freshwater, so smolts end up "drinking" a lot of water to get the salt they need. All that water needs to go someplace, so they pee a lot. Smolts also pump water out of their bodies using their gills. The kidneys and gills work hard to get rid of all the extra water.

In the ocean, the situation is reversed. Here the smolts have to do the opposite of what they did in freshwater. The salty ocean water pulls water out of the fish's body. After swimming in the ocean, your skin is dry and itchy. This is because the salt in the water pulled moisture from your skin. Smolts need to hang onto every drop of water they can and get rid of the salt. They don't pee as much. When they do pee, they pee salt! Their gills also kick into action pumping the salt they don't need out of their bodies.

This big switch happens as smolts are traveling to the ocean. It only takes about two weeks for the smolts' body to make this huge change. That's incredible!

Habitat Challenges

Steelhead are travelers. They use many different habitats throughout their lives. They use freshwater mountain streams, large rivers and the salty ocean during their lifecycle. Changes to any one of these habitats can affect whether a steelhead lives or dies.

Steelhead lay their eggs in gravel nests. One threat steelhead eggs and young fish face is silt or fine dirt in the water. Many things may cause silt to enter a stream. A fire may burn away the plants along the edge of the stream. With no plants holding the streambank in place, dirt may get washed into the stream when it rains. Silt can settle between the rocks in the bottom of the river. The eggs and fish need flowing water to bring them oxygen. If the water cannot flow freely, the eggs and young fish may suffocate.

If you are a steelhead, the key to whether you live or die will most likely be your trip to the ocean. Remember the big change smolts go through so they can live in saltwater? Smolts have to get to the ocean when they are ready to meet the saltwater challenge. If their timing is off, their chances of survival are lowered.

How does a six-inch smolt get to the ocean? It can't swim hundreds of miles, even if it is downhill. Steelhead ride the river's currents backwards. They go tail first! They leave for the ocean in spring when the rivers are swift and full of melted snow and spring rains. Smolts rely on a swift, natural flowing river to push them to the ocean.

One thing that has changed the river habitat used for migrating to the ocean is dams. Dams built across the Columbia and Snake Rivers have made it more difficult for smolts to reach the ocean. Dams create giant lakes. The current is much slower than it is in a free flowing river. This means the smolts are moving slower, too. The trip that used to take a few weeks can now last for months! That salt and water balance in their body can get thrown off. Smolts may also get lost and lose their way in the lakes. They start swimming and use precious energy. It is also easier for predators to catch the smolts in the lakes.

Changes to their ocean habitat also affect steelhead. Water temperatures that go up and down may change the kind and amount of food steelhead eat. Steelhead also have to watch out for predators in this habitat.

So as you can see, steelhead face many challenges in all the habitats they use. Changes in any of the habitats may determine if a steelhead lives or dies. Can you think of other challenges steelhead face?

CHANGING SPOTS

Have you ever wondered how steelhead got their name? When we see steelhead in Idaho, they are usually dark green with black spots and a red stripe. Their head doesn't look like steel at all. Well, if you catch a steelhead in the ocean, it would have a shiny head, just like a new dime. As steelhead change their habitats, they also change their colors and spots.

When steelhead leave their gravel nests, they are about one inch long and called fry. Fry make great snacks for fish, kingfishers, herons and garter snakes. They've got to hide from predators. The best way to hide is to blend into the background. Fry are dark and splotchy on the top half of their bodies and light colored on their bellies. From the top, they look like gravel in the stream. Herons and other fish that attack from the top have a tough time seeing them.

From the bottom, they look like the sky. This makes it difficult for fish and other predators that might attack from the bottom.

These colors are great for fry living in the stream, but not for steelhead living in the ocean. On their way to the ocean, they need to change colors and drop the spots. Dark on top, silvery on the sides and white on the bottom is the color scheme best for the ocean. Why do you think these colors work best?

When steelhead start their journeys back to Idaho, they again need to change the way they look. Now they are changing to look good for other steelhead! The bright red colors they get on the sides of their bodies help to make them attractive to each other. Colors and spots – who knew they were so important!

Goin' Fishin'

Going fishing can be so much fun, and catching a big steelhead is even more fun! If you are fishing along the Snake, Clearwater or Salmon Rivers at the right time, you just might catch a steelhead. You'll know when you do. Steelhead fight like mad to get away. They jump, twist and make your reel sing when they pull the line out.

Be sure to check the fishing regulations and Idaho Fish and Game website for the most up to date information. It is an angler's responsibility to know the laws and rules. You may need a license and special permit to keep steelhead.

Wild steelhead are protected. You are not allowed to keep them. You may even hook into a Chinook salmon. How do you know if you have a Chinook, wild steelhead or hatchery steelhead? Let's start by making sure your fish is not a Chinook salmon.

It is fairly easy to tell if your fish is a Chinook. All you have to do is look in the fish's mouth. Just watch out for the teeth; they are sharp! If the gums in the mouth are black, it is a Chinook salmon. Steelhead have white gums. Let this fish go. You can sometimes keep these fish, but special rules apply to them, too.

So the fish you caught has black spots on its body and fins, a red colored stripe along its body and white gums. Is it a steelhead? It is if it is 20 inches long or longer. Remember rainbow trout and steelhead are the same fish. Most steelhead are longer than 20 inches; rainbow trout are usually shorter than 20 inches. The length of the fish is what is used to tell rainbow trout and steelhead apart from each other.

Now you need to figure out if your fish is a wild fish or hatchery fish. Steelhead hatched in the wild have an adipose fin. This is a small fin on the back right in front of the tail. Hatchery steelhead are the steelhead you can keep. They are raised in fish hatcheries and put into rivers, so people can catch and eat them. Steelhead raised in a hatchery have the adipose fin removed. This is how an angler knows if a steelhead is a wild or hatchery fish. If your fish's fin is missing, you've got dinner. If the fin is there, you have just caught a beautiful wild steelhead. You can give it a kiss and release it unharmed.

Steelhead fishing can be a blast! Grab an adult, your gear, check out the regulations and then go fishing. A steelhead tugging on your line is sure to bring a smile to your face!

Steelhead Word Search

S S Y S J P K N N A D L J I C
A U U X T A S O U E V A O L Q
L G R O M E T M N R E E E S G
T K N T M U E E O M B A S R M
W N I I O O T L I L R E P O Z
A Z G R H A R G H W T Q O L R
T C T E E S R D A E F J T O E
E N U R A A I T A J A R S C T
R J H Z T J E F S N E D P Y A
S T Z E Y R L W Z D A B B G W
S M A E R T S G D Y L I R X H
G E P I R E V I R N O M L A S
I W V W S N A K E R I V E R E
B E B X B V N K O C E A N G R
R V J A K P O Y D E T V M H F

WORDS:

ANADROMOUS
A-RUN
BIG
B-RUN
CLEARWATER RIVER
COLORS
FISHING
FRESHWATER
MIGRATE
OCEAN
REDD
SALMON RIVER
SALTWATER
SMOLT
SNAKE RIVER
SPOTS
STEELHEAD
STREAMS
THREATENED
TROUT

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