Wildlife Express!

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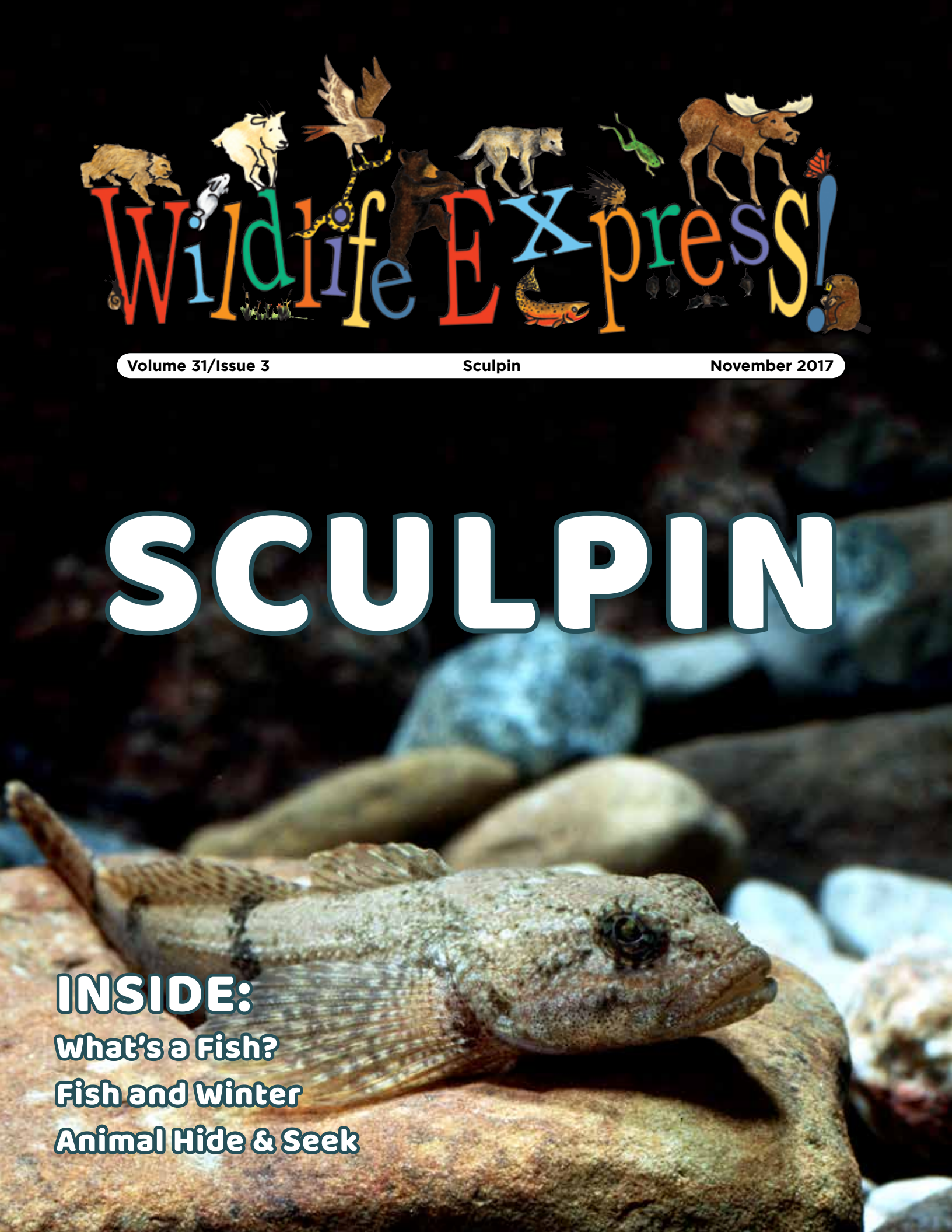
SCULPIN



INSIDE:

Sculpin

Have you ever been looking into a stream and thought you saw a rock hop? You may have thought that your eyes were playing tricks on you, but you could have been looking at a sculpin. These little fish look a bit like rocks, and they do hop! At least it looks like they are hopping.

There are lots of different species of sculpin in the world. Many sculpin live in saltwater; some live in fresh water. Saltwater sculpin may reach lengths of up to two feet. Freshwater sculpin are small. They usually don't grow longer than six inches.

Sculpin are a bit different from other fish. They don't have scales or swim bladders. Swim bladders help fish float and move up and down in the water. Since sculpin don't have swim bladders, they spend almost all of their time on the bottoms of rivers, streams and lakes. It's hard to swim if you don't have a swim bladder. That's why it looks like sculpin are hopping when they swim. Their front fins stick out from the sides of their bodies like little feet. They hold themselves up on their fins and use the fins to scoot across rocks. These fins are also great for holding onto slippery rocks.

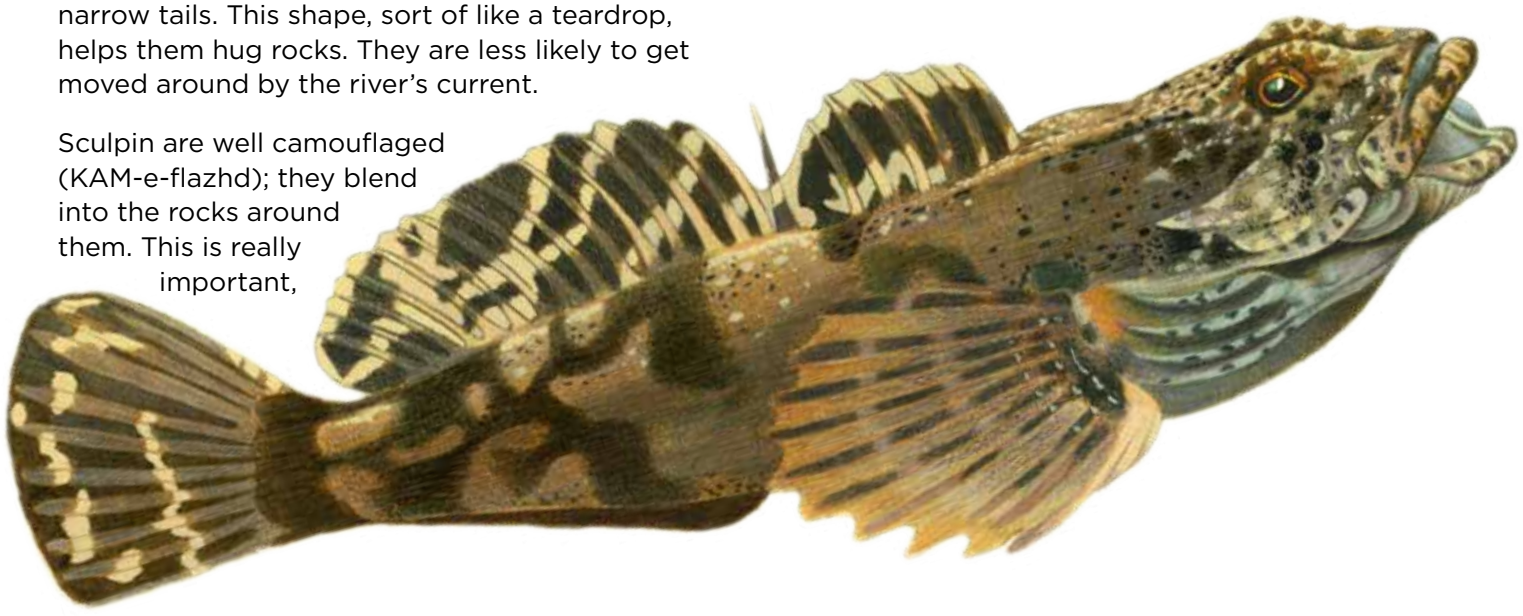
Sculpin bodies are perfect for sitting on the bottom of fast flowing streams. Their heads are big, broad and flat. Their bodies taper into narrow tails. This shape, sort of like a teardrop, helps them hug rocks. They are less likely to get moved around by the river's current.

Sculpin are well camouflaged (KAM-e-flazhd); they blend into the rocks around them. This is really important, because many larger fish eat sculpin. Looking like a rock also helps sculpin catch their favorite food – insects.

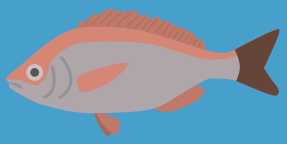
Sculpin spawn or lay their eggs in spring. The male chooses a nesting spot under a rock or log. He guards his spot from other males and will fight to keep it. Once a male sculpin has his spot ready, he tries to get the attention of a female. The male may shake his head and dart quickly around the nest. He may even bite the female and pull her toward the nest! If the female likes the male's nest site, she lays her eggs on the underside of the rocks in the nest. She is upside down while laying hundreds of eggs! The male guards the nest as the eggs develop and will stay there until the young are ready to leave. Male sculpin are devoted and determined fathers.

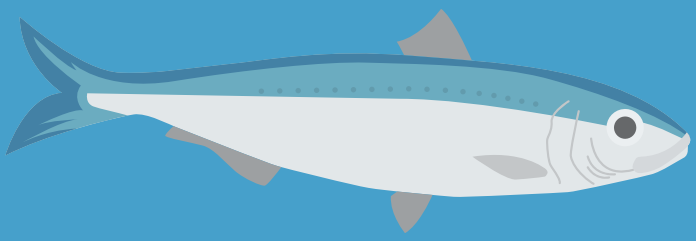
Sculpin are important to the ecology of a stream. Not only are they important parts of the food web, they also tell scientists if rivers are healthy. Sculpin are affected by even small changes in water. Sculpin are called indicator species. They "indicate" a problem. Sculpin changes in behavior or population size help scientists figure out if rivers or lakes are polluted or changing.

Sculpin are fantastic fish. With their fat lips, big heads and scooter fins, you might even think they are cute!



WHAT'S A FISH?





Fish are vertebrates. They have backbones, just like you. Fish also breathe through gills, have fins and live in water. That seems pretty simple, right? Well, in nature, things aren't always as simple as we would like them to be.

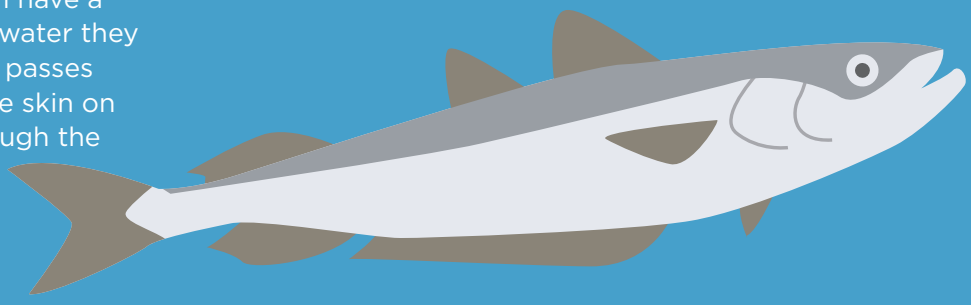
Take that backbone for example. We know what our backbone is like. In the fish world, not all backbones are created equal. Sharks and sturgeon have a backbone made of the same stuff that supports your nose and ears! It is called cartilage. Cartilage is not hard at all.

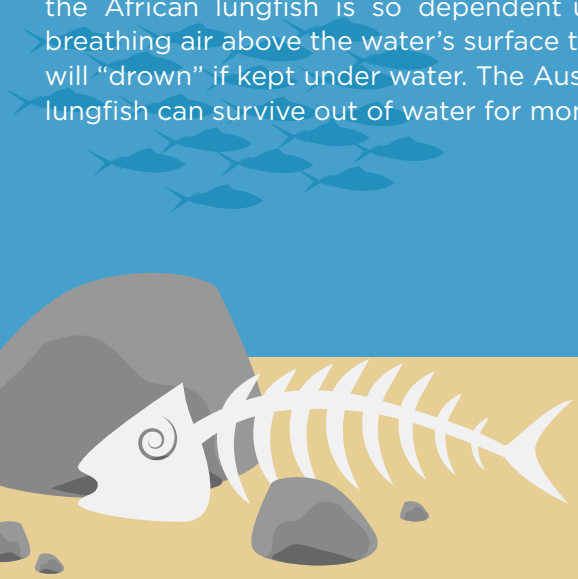
Fish need oxygen to survive. Most fish have a special way to get oxygen out of the water they live in – gills. Water, with oxygen in it, passes over the gills when the fish swims. The skin on the gills is thin. Oxygen can pass through the skin into the fish's bloodstream.

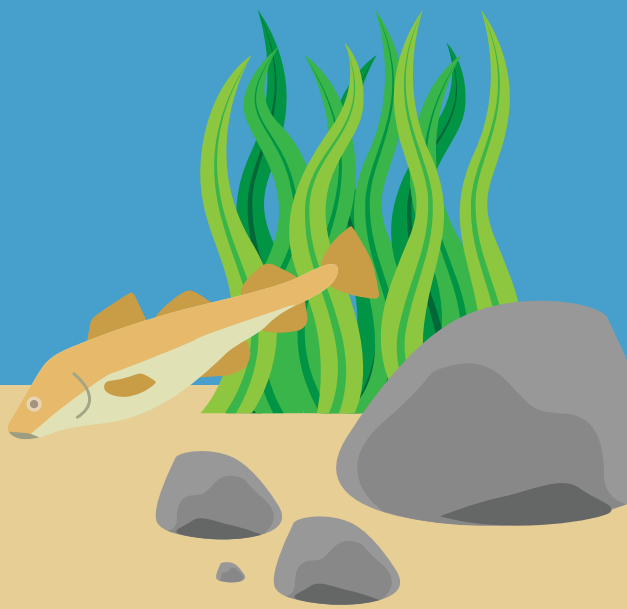
Does this mean that all fish use gills to get the oxygen they need? No, some fish actually have lungs! In fact, the African lungfish is so dependent upon breathing air above the water's surface that it will "drown" if kept under water. The Australian lungfish can survive out of water for months if it is in a wet burrow. Lungfishes are examples of fish that break the gill rule.

We usually think of fish as having fins on each side of their bodies, but what about lampreys? Lampreys look like eels. They don't have paired fins or jaws, yet they are still fish.

So as you can see, defining what a fish is may not be so simple. Fish have been a part of our planet for 450 million years. There are over 20,000 different kinds of fish worldwide. They have had time to adapt to many underwater (and even out of water) habitats.







FISH & WINTER

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What happens to fish in the winter? If you are wondering about this question, you are not the only one. Many people wonder what happens to fish during the cold winter months.

Most fish are cold-blooded. Their body temperatures are the same temperature of the water in which they live. Only tunas and some sharks are able to keep their body temperatures much higher than the water around them. So what happens to fish when ice starts to form on top of the water and winter shows its bitter side? Ice acts like a lid on top of the water. Light and oxygen can't get through the ice. Not only fish are affected, but everything living under the ice is affected, too.

One thing that ice can do is lower the amount of oxygen in the water. Fish and other animals that live in the water need oxygen to survive. One way oxygen gets into the water is by waves and splashes. Water can't move if it is covered by a blanket of ice, so less oxygen gets into the water to replace the oxygen used by animals. To lessen the amount of oxygen they use, fish and other animals slow down. They become less active and don't eat as much. Some animals enter a sort of hibernation.

Just like many trees drop their leaves in the fall, so do many water plants. Plants need sunlight to make food. Ice acts like a curtain on top of a pond. It keeps light from entering the water. This causes many plants to stop making food. Their leaves drop off. Sometimes even the stems die. With their leaves gone, plants shut down and rest for the winter. Bacteria break down the dead leaves and stems. Bacteria use oxygen to break down the plants and this uses up even more oxygen available to fish and other animals. If there is not enough oxygen in the water, fish may begin to die. When this happens, it is called a winterkill.

Next time you see a pond or lake in the winter, think about the creatures living in it. How are animals adapted to survive the winter?

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COLD FINS AND WARM FINS

Sculpin are fish that like their fins to be cold. They like to live in cold, clean water. Cold water is different from warm water. More than just the temperature is different.

One big difference is cold water can hold more oxygen than warm water. Fish that live in cold water habitats usually have no problem getting all the oxygen they need from the water. Cold water is also usually a bit cleaner and clearer. Water like this is usually found in mountain streams, lakes and streams that start as springs.

Trout like clear water, but they don't like to see their neighbors. Trout can live pretty close to each other. They just need enough food and a "wall" between them. Fallen logs or rocks make nice "walls" between neighbors. Good cold water habitats need fallen logs, rocks or other plants to give fish hiding places. Usually cold water is moving. The Boise River, Salmon River and Selway River would be examples of cold water habitats.

Some fish like their fins to be warm. You can find warm water habitats in shallow ponds where the sun warms the water and in some places in southern Idaho.

Warm water usually has less oxygen in it. The warmer water gets the harder it is for water to hold onto oxygen. Warm water usually has fish living in it that have interesting ways to get the oxygen they need.

Catfish, called brown bullheads, are fish that you can find living in warm water. Bullheads can breathe through their skin. They can even use their swim bladders as an emergency lung by coming up to the surface of the water and gulping air. They hold the air in their swim bladders then "burp" the air out. The air can pass over their gills, so they can get oxygen out of the air. Pretty amazing!

Warm water is usually murky. This is where the catfish's whiskers come in handy. Their whiskers help them find their way around and "smell" the water for food. Water warm is usually still. Farm ponds, shallow ponds and reservoirs on the lower part of the Snake River are examples of warm water habitats.

Ecology

Ecology is a big word. Ecology is the study of how living things and nonliving things interact and depend on each other. If you break down the word ecology, “eco” means house and “logos” means study. Ecology is the study of our house, Planet Earth.

When ecologists study certain areas, they call them ecosystems. This includes all living and nonliving things. Living things might be plants, animals, bacteria and fungi. Nonliving things include sunlight, soil, air and water. An ecosystem might be as small as a puddle with only a few organisms interacting, or it might be as large as a river with many organisms.

One thing all living organisms need to do is find energy. All living things need energy to survive. The main source of energy on Earth comes from the sun. Plants use light from the sun to make food. Organisms that use the sun to make food are called producers. Grass, trees and algae are producers.

Organisms that get energy from other plants and animals are called consumers. This makes a food chain. There are four different kinds of consumers. Herbivores eat plants. Carnivores eat meat. Omnivores eat both plants and meat. Decomposers feed on dead plants and animals. Most consumers and decomposers get energy from more than one kind of food. Overlapping food chains make food webs.

An ecosystem is a complex thing. All parts of the system are important. If one part is removed, many things are affected. Sculpin are very important to stream ecosystems. They eat insects, fish eggs and smaller fish. Trout and birds may eat sculpin. The trout might be eaten by an eagle, osprey or heron. If the sculpin is missing, it could affect not only trout that eat sculpin, but also osprey that eat trout.

Everything is connected. Studying ecology helps people see how they are connected to the world. If sculpin disappear how might that affect you?

ANIMAL HIDE & SEEK

Sometimes sticks walk, leaves hop and rocks crawl. Of course, these things really can't hop or crawl, but sometimes it sure looks like they're moving. Often when we are seeing a stick crawl, it's actually an animal.

Camouflage means to blend in with your surroundings and hide. It is a type of disguise. Camouflage may be a certain color, pattern of colors, or a special shape that fools the eye. Camouflage may help an animal to hide, or it may help a hunter to sneak up on its prey.

Sculpin camouflage themselves very well against the rocky bottoms of streams. Looking like rocks helps sculpin protect themselves from larger fish. Many fish think sculpin make tasty treats. Sculpin also have an easier time grabbing the insects and fish they like to munch.

Many animals change their colors with the seasons. Animals that change color to match their background are using cryptic coloration. This is what weasels and snowshoe hares do. When snow starts to fall, their coats gradually turn from brown to white to match the snow.

Animals may even change colors and patterns throughout their lives. Deer fawns are born with tan coats that have white spots. The spots match the sun and shade that dapple the tall grasses where the fawns hide. As long as the fawns do not move, predators will have a difficult time seeing them. As deer fawns grow older and can run faster to escape danger, the spots fade away.

Do you think zebras are camouflaged? They are not camouflaged for our eyes. Their black and white stripes stick out against the grasses of Africa, but that is not true for lions' eyes. Lions have a difficult time seeing some colors. Grasses and trees look like shades of gray, so the zebras' stripes help them to blend into the tall grasses. This helps the zebras avoid becoming a lion's meal. Whether hunter or hunted, camouflage helps animals to survive.

BE OUTSIDE
IDAHO CHILDREN IN NATURE

FISHING IN WINTER

Fishing in winter? You bet! Winter is a great time to get out and enjoy the fresh, crisp air. Don't let the cold and ice slow you down. Fishing in the winter can be a blast!

Some rivers are closed to fishing in the winter. Be sure to check the fishing regulations to make sure the river you want to fish is open. If your river is closed, ice fishing may be an option if a frozen lake or pond is nearby.

Ice fishing is fun, but so is being safe! Here are some important things to remember when ice fishing. Never venture onto the ice alone. Ice fishing is best done in pairs or groups; make sure you have an adult along. Ice is usually safe for walking when three to four inches thick. You will need eight to 10 inches of clear, solid ice if you venture out with an ATV or snow machine.

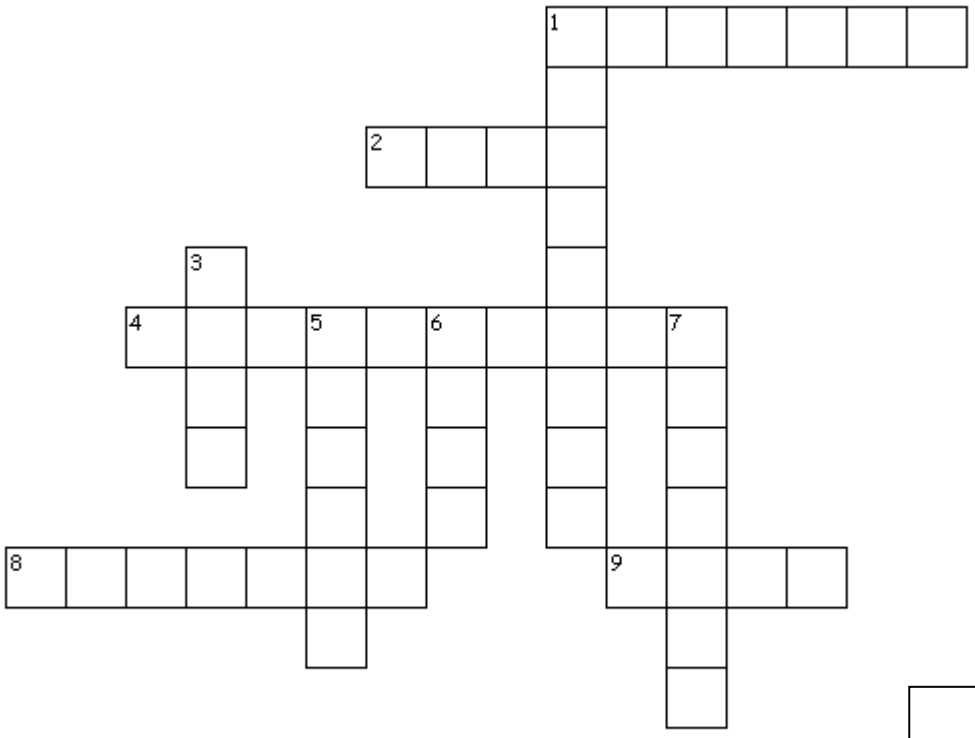
It is important to stay dry and warm when fishing this time of year. You should dress in layers; wear waterproof snow pants and a coat; warm winter boots; and don't forget gloves and a hat. It's also a good idea to bring along an extra set of clothes and a pair of shoes just in case you get wet. Most important of all - don't forget the thermos of hot chocolate! Hot chocolate always has a way of making even the coldest day feel warm!

There are some special pieces of equipment you will need to ice fish – an ice auger and ladle. The ice auger is for drilling holes in the ice, and the ladle is used to scoop out ice that forms in your holes. There are special ice fishing poles, but you really don't need one. Any simple rod and reel will work fine. You can even use a stick with fishing line wrapped around the stick! Some fish, like perch, tend to be in fairly deep water (up to 40 feet) in the winter. So you will need to add some weight to the fishing line. Now all you need is a hook and bait. Natural bait, like a worm, will work well. You can even try a lure if you like.

To get started, drill a series of test holes. For safety's sake, no hole may be larger than 10 inches in diameter. Try different locations at different depths until you find fish. You can drop in your line and wait for a strike, or jig. To jig, drop the bait to the bottom, and then reel up about two feet of line. Slowly raise the rod tip about a foot, and then drop it back down. Repeat this until a fish strikes.

Now that you know a bit about ice fishing, grab an adult and go fishing! Fishing in the winter can be exciting!

Sculpin Puzzle



Words

Bladder
Camouflage
Cold
Ecology
Fins
Indicator
Insects
Male
Oxygen
Rock

Across
1. A sculpin's favorite food.
2. Sculpin like _____ water in Idaho.
4. This means to blend in and hide.
8. Sculpin do not have a swim _____.
9. Sculpin are camouflaged to look like this.

Down
1. Sculpin are an _____ species.
3. _____ sculpin guard their nests.
5. Cold water can hold more _____.
6. Sculpin use these to scoot across rocks.
7. This is the study of how living and nonliving things interact.

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WE WOULD LIKE TO HEAR FROM YOU!
If you have a letter, poem or question for Wildlife Express,
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