**Puddles and small spaces are perfect spots for tiny animals to live**

By Washington Post, adapted by Newsela staff

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Grade Level **3** Word Count **446**

Spring is a wet time in the woods. Melting snow and rain makes puddles. Tiny animals are busy in those puddles or little pools.

Eggs that survived the winter begin to warm. They hatch and let out tiny shrimp. They are called fairy shrimp.

Wood frogs lay their eggs in the pools. No fish are there to eat them. Animals come to the pools to drink water.

These pools are around only in the spring. They dry up in the summer. For a few months, they are full of life. They are just a tiny part of our environment but they can keep rare animals alive.

**Look Closely at That Puddle**

To many people, they are just puddles. To the tiny animals that live there, it is their whole world.

Aram Calhoun is a scientist. When you look at the pools, you have to be amazed, she said. Yet few people are looking. Spring pools are so small they do not even count in rules for the environment.

Calhoun and other scientists want to protect spring pools and other small places. A new magazine is all about these places. They include little caves, single trees, and plants along roads. These places make a big difference to small creatures.

**The "underdogs" of our environment live in the smallest places on Earth**

Grade Level **5** Word Count **684**

In springtime in the woods, melting snow soaks the forest floor. Rain spills off new leaves into puddles. Tiny egg cases that survived the winter begin to thaw out in the water and sun. They hatch, releasing a type of small shrimp called fairy shrimp.

Wood frogs and blue-spotted salamanders lay their eggs in the scattered puddles, where no fish might make a meal of them. Land animals come to the pools for a drink of water. Birds swoop down to eat larvae.

These vernal pools or spring pools exist only in the springtime. By summer, they dry up. For a few months, they are sources of life. Though they represent a tiny part of the environment, in some ecosystems they can support one-third of rare species.

**Take A Close-Up Look at That Puddle**

To some, they might be just puddles, but to their inhabitants, they are the whole world.

Once you take a look at them "you have to be impressed," said Aram Calhoun, a scientist at the University of Maine. Yet few people are looking. Spring pools are so small they are left out of environmental rules. Other efforts to protect plants and animals do not often focus on these small places.

"They're definitely the underdogs," Calhoun said.

In the journal Biological Conservation, Calhoun and other scientists wrote in support of spring pools and other parts of nature. The latest issue is devoted to small natural places. They include cramped caves, single trees, even patches of plants along roads. These places have big effects on their environments.

"I like to speak out for the things that don't have a lot of people speaking out for them," Calhoun said.

**Scientists say the tiny heroes of the Earth's ecosystem are all around us**

Grade Level **7** Word Count **863**

It is springtime in the woods in Maine. Melting snow soaks the forest floor. Rain spills off new leaves into growing puddles. Tiny egg cases that endured the winter hidden among leaves begin to thaw out in the water and sun. They hatch, releasing tiny crustaceans known as fairy shrimp. Larger creatures – wood frogs, blue-spotted salamanders – lay their eggs in the pools, where no fish might make a meal of them. Mammals come to the pools for a drink of water. Birds swoop down to snack on larvae.

Vernal pools are temporary pools. They exist only in the spring, evaporating in summer. For a few brief months, they are sources of life. Though they represent a tiny proportion of the landscape – usually a fraction of a percent – in some ecosystems they can support up to 35 percent of rare species. To the world, they may be just puddles, but to their inhabitants, they are the whole world.

Once you take a look at them, "you have to be impressed," said Aram Calhoun, a conservation biologist at the University of Maine. Yet few people are looking. Vernal pools are so small they fall through the cracks in environmental regulations, and so modest that few conservation campaigns would choose them as a poster child.

"They're definitely the underdogs," Calhoun said in the latest issue of the journal Biological Conservation, Calhoun and her fellow scientists go to bat for vernal pools and other neglected parts of nature. The entire issue is devoted to small natural features including rocky outcrops, cramped caves, single trees, even the patches of vegetation that flourish along the sides of roads and the edges of fields. These places have important effects on their landscapes.

"I'm a small natural feature myself," said Calhoun, who is 5 feet tall, "so it resonates with me. ... I like to speak out for the things that don't have a lot of people speaking out for them." The special issue was organized by Malcolm Hunter, Calhoun's husband and fellow University of Maine scientist. He calls the significance of small natural features the "Frodo effect," for the unassuming hobbit who becomes the hero of the "Lord of the Rings."