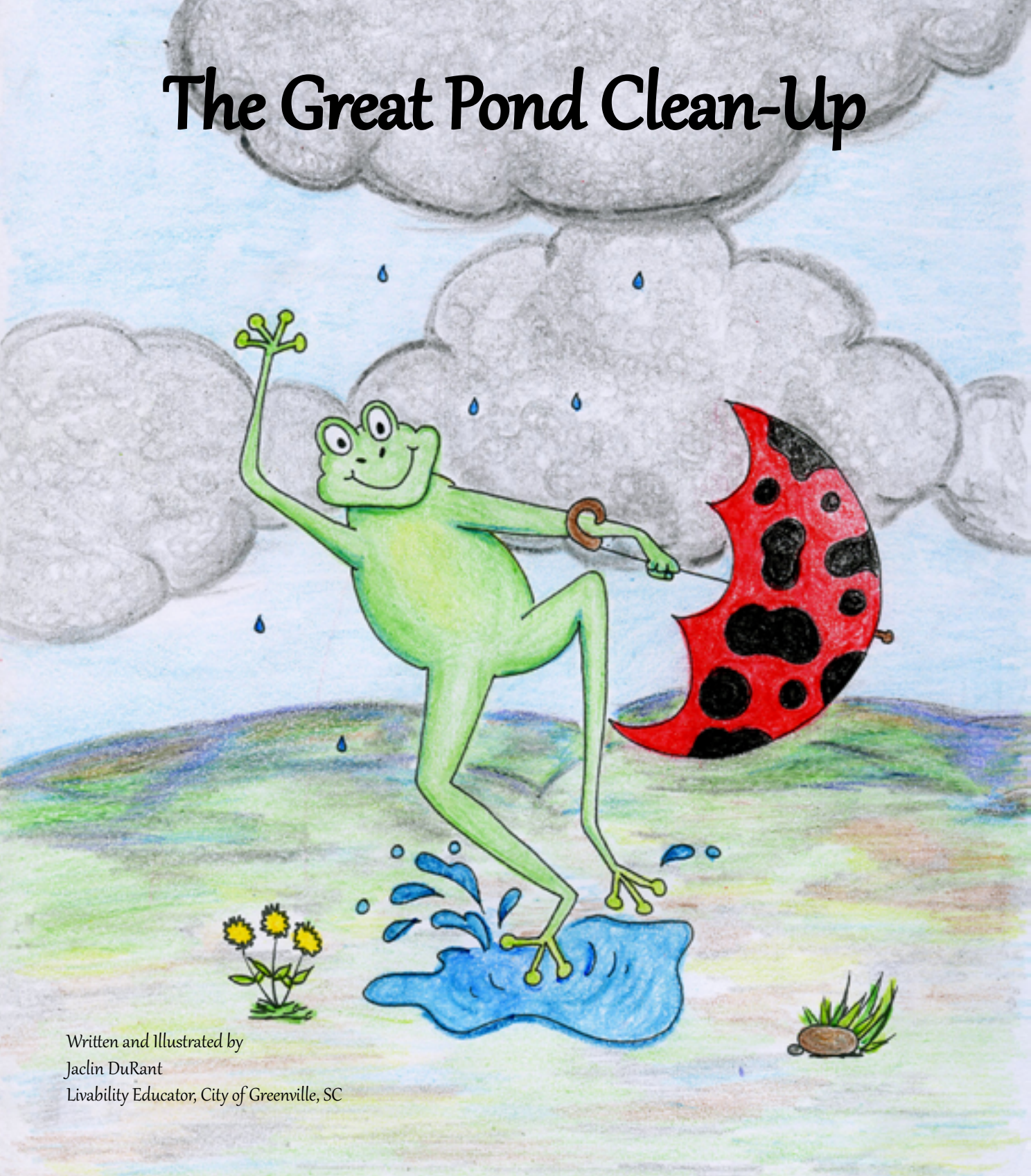


The Great Pond Clean-Up



Written and Illustrated by
Jaclin DuRant
Livability Educator, City of Greenville, SC

Connections for Sustainability

This book was developed by the City of Greenville's Livability Educator as part of the Connections for Sustainability Project, a three year planning project funded by a combination Community Challenge Grant and Tiger II Planning Grant from the US Department of Housing and Urban Development and the US Department of Transportation.

The Great Pond Clean-up

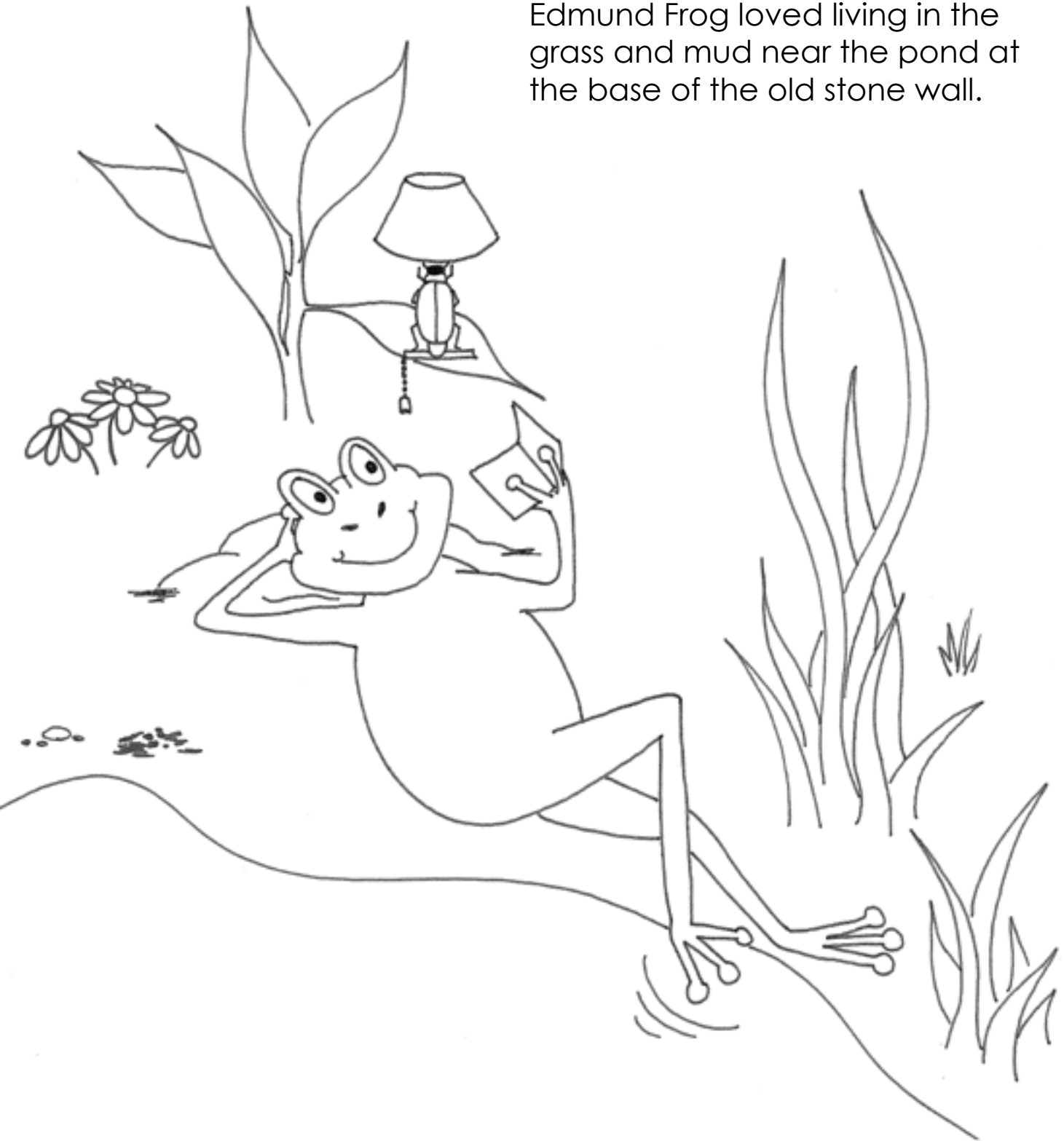
Written and Illustrated by Jaclin DuRant,
Livability Educator for the City of Greenville

This book is dedicated to Ed, who inspires me everyday, and to anyone who ever worked to make their corner of the world a better place.

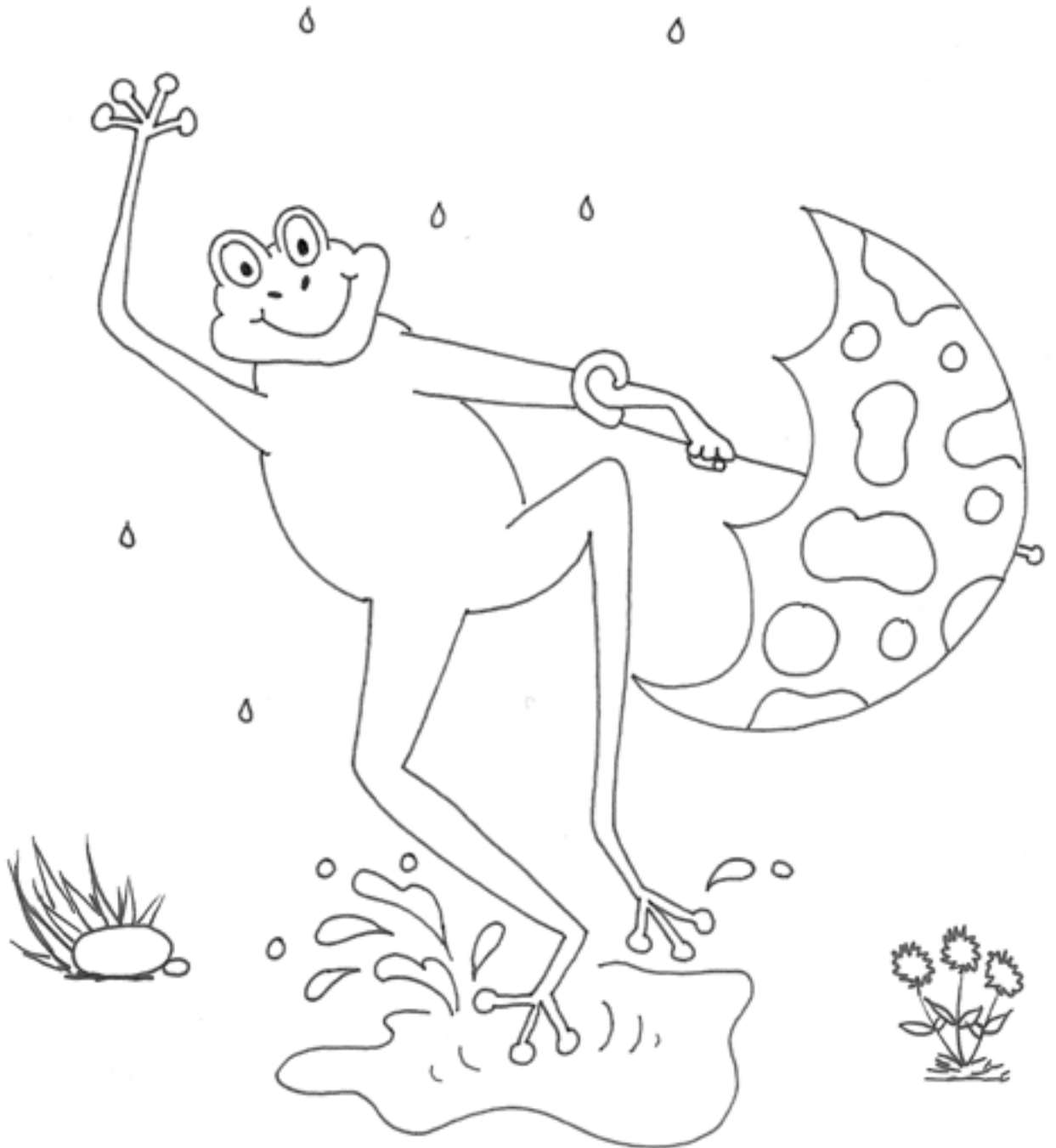
*A picture glossary with definitions of the bold words can be found at the back of the book.

**Read and color the prequel, "A Tree!" A free download is available from the Livability Educator's page at connections.greenvillesc.gov.

Edmund Frog loved living in the grass and mud near the pond at the base of the old stone wall.

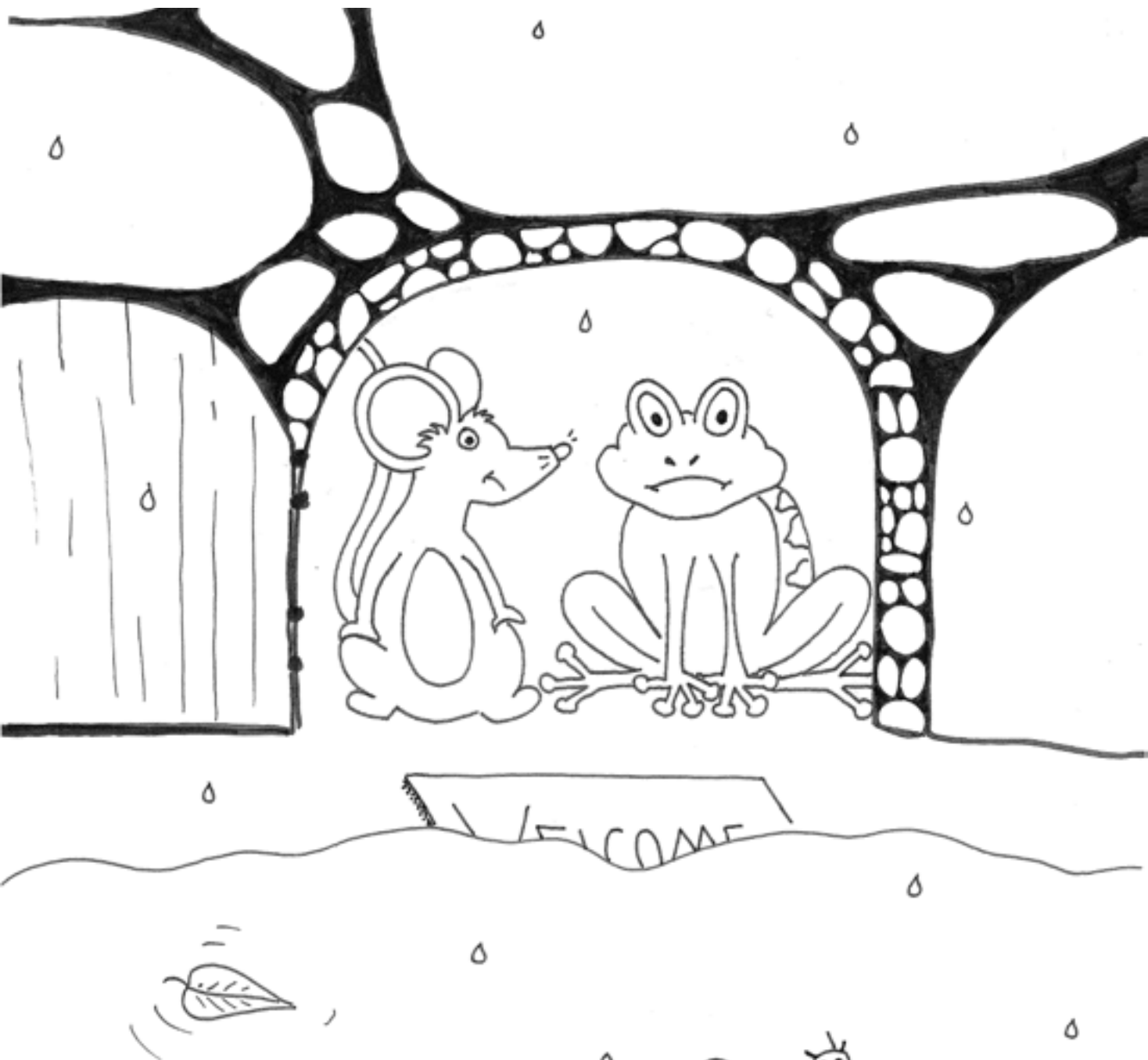


Since he was a frog, Edmund didn't mind a little bit of wet weather. In fact, he liked to play and sing in the rain.



But one day it rained so much that his pond flooded, and the water came all the way up to the base of the old stone wall.

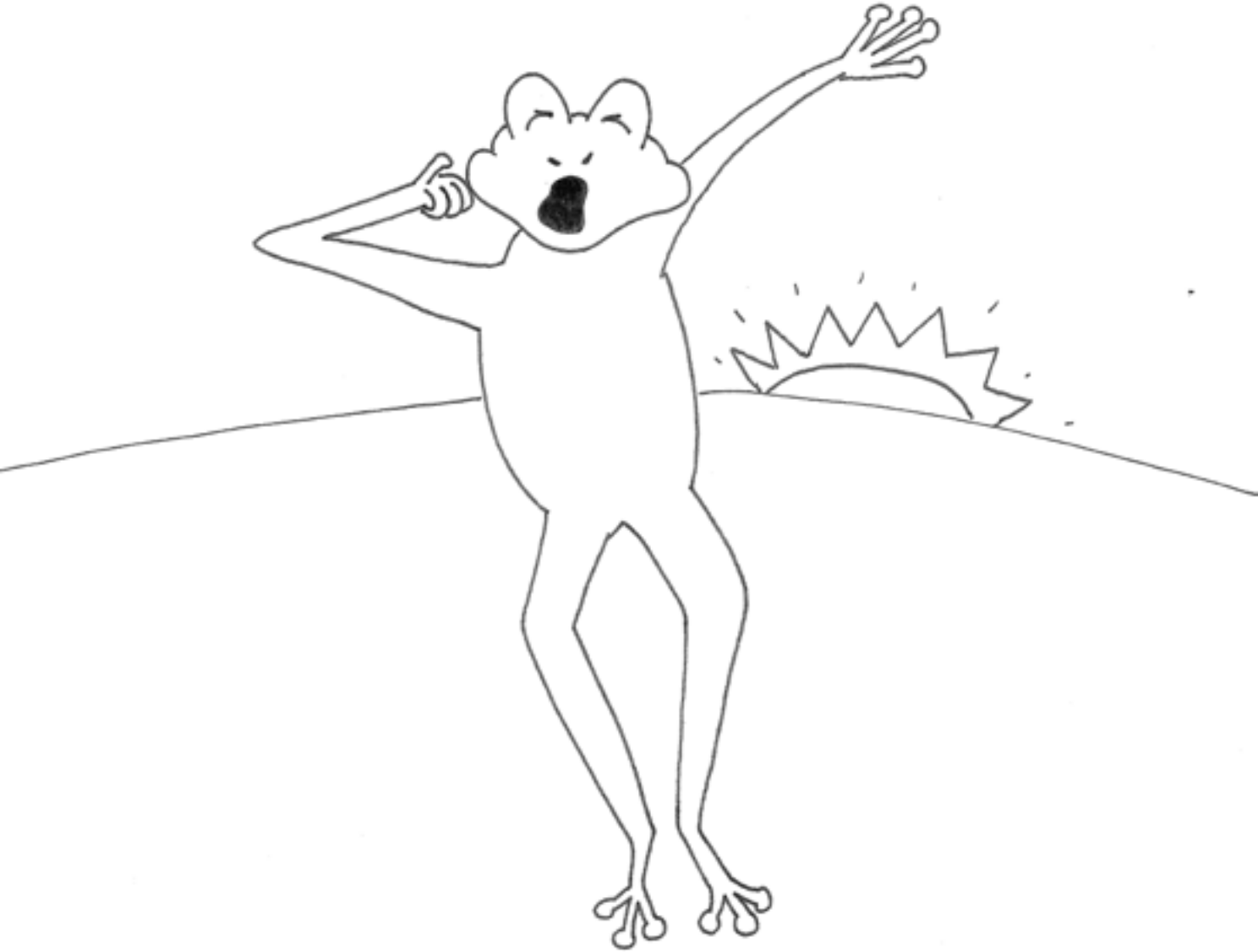




Edmund visited his friend, William the Mouse. They sat in the doorway of the mouse hole, and watched as flood waters swept past the old stone wall.



It rained for three whole days. On the morning of the fourth day, Edmund was very excited to get back to his pond, but something wasn't right.



“Where did all of this trash come from?!?” Edmund cried. “My beautiful pond is ruined!”

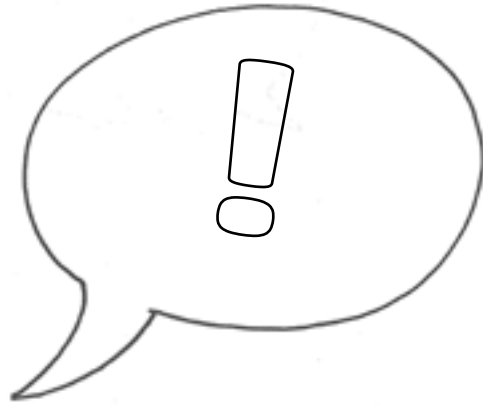


“Oh no,” William exclaimed.
“This place is a mess!” He
gave Edmund a hug.

“Cheer up,” William
said, “I will help you
clean it up.”



“Sorry to interrupt,” A shaky voice chimed in, “but it’s even worse than you think.”

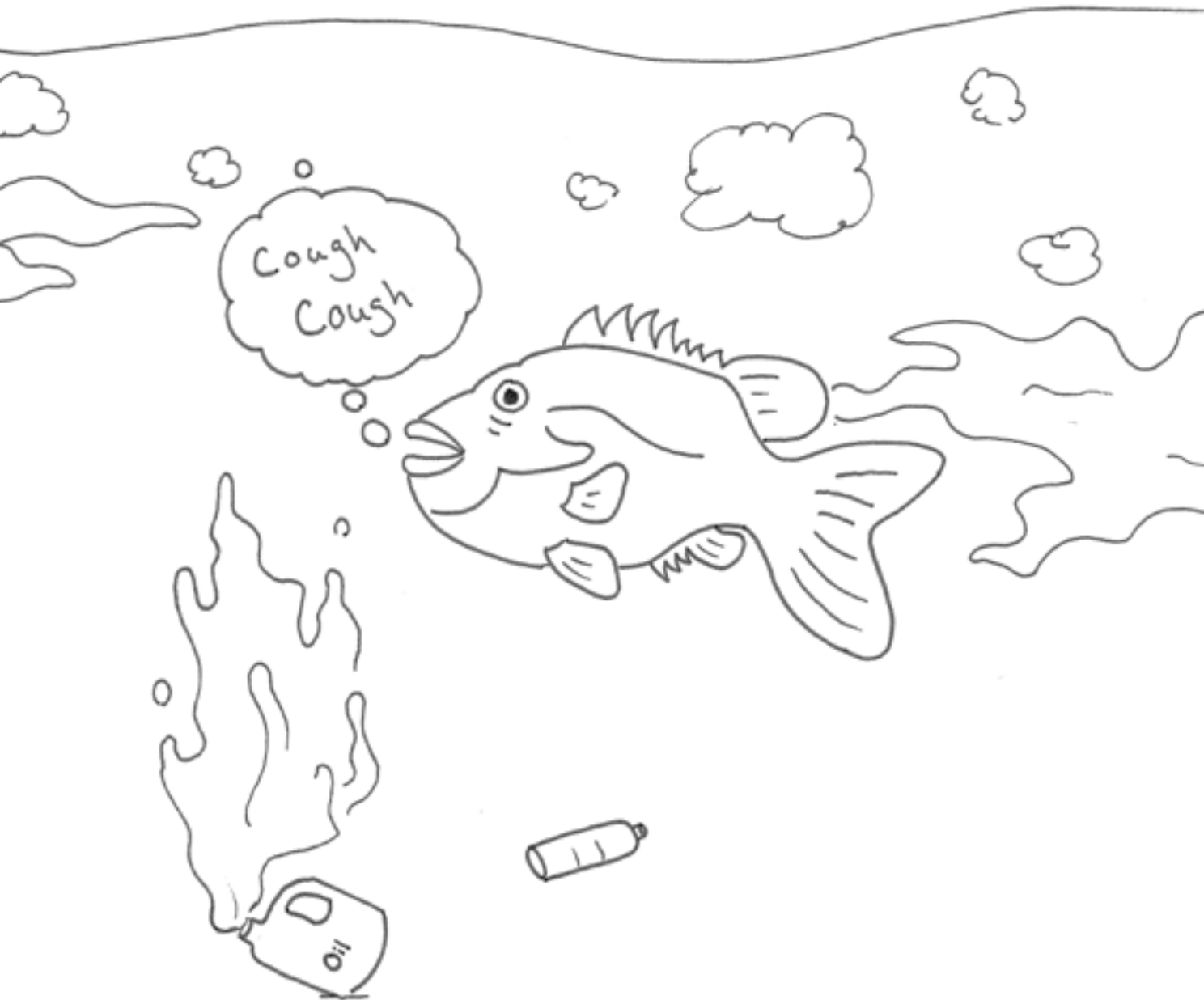


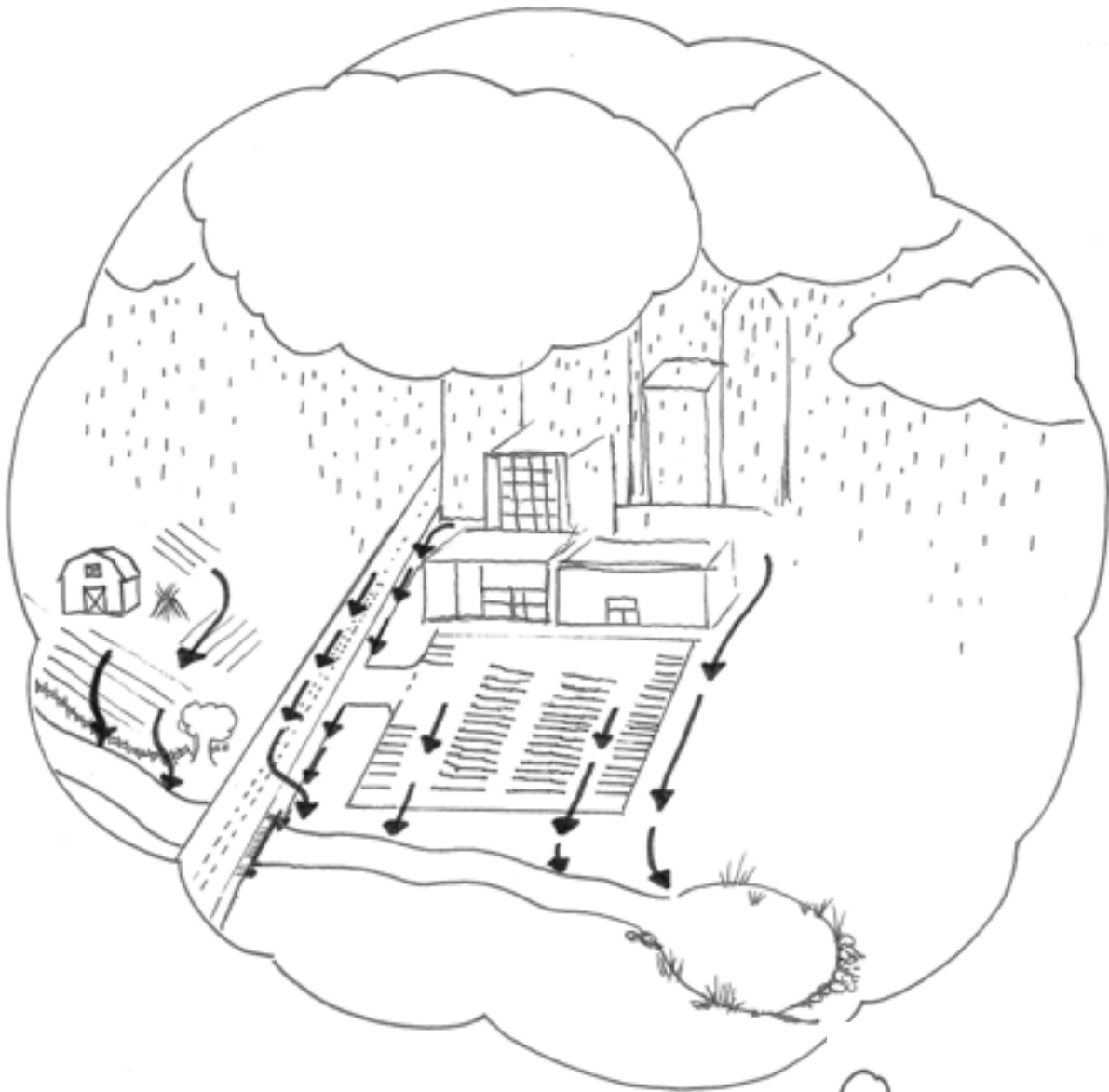
“Mel!” Croaked Edmund in shock “What on earth happened to you? You don’t look so good.”



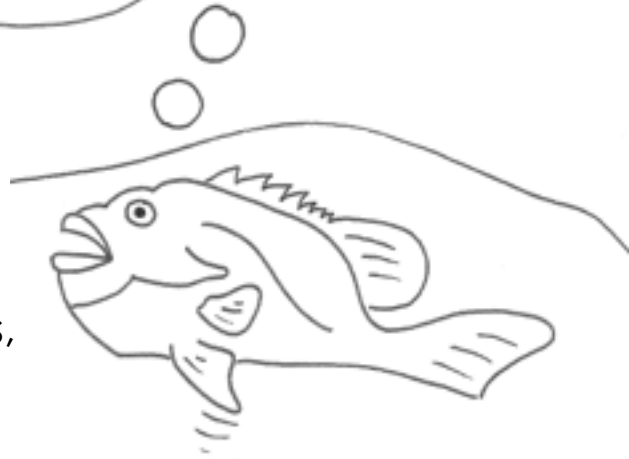
Mel Sunfish flipped her fins. Instead of beautiful blues and yellows, she was a sickly grey color.

"There's more than just trash in the water," Mel said.



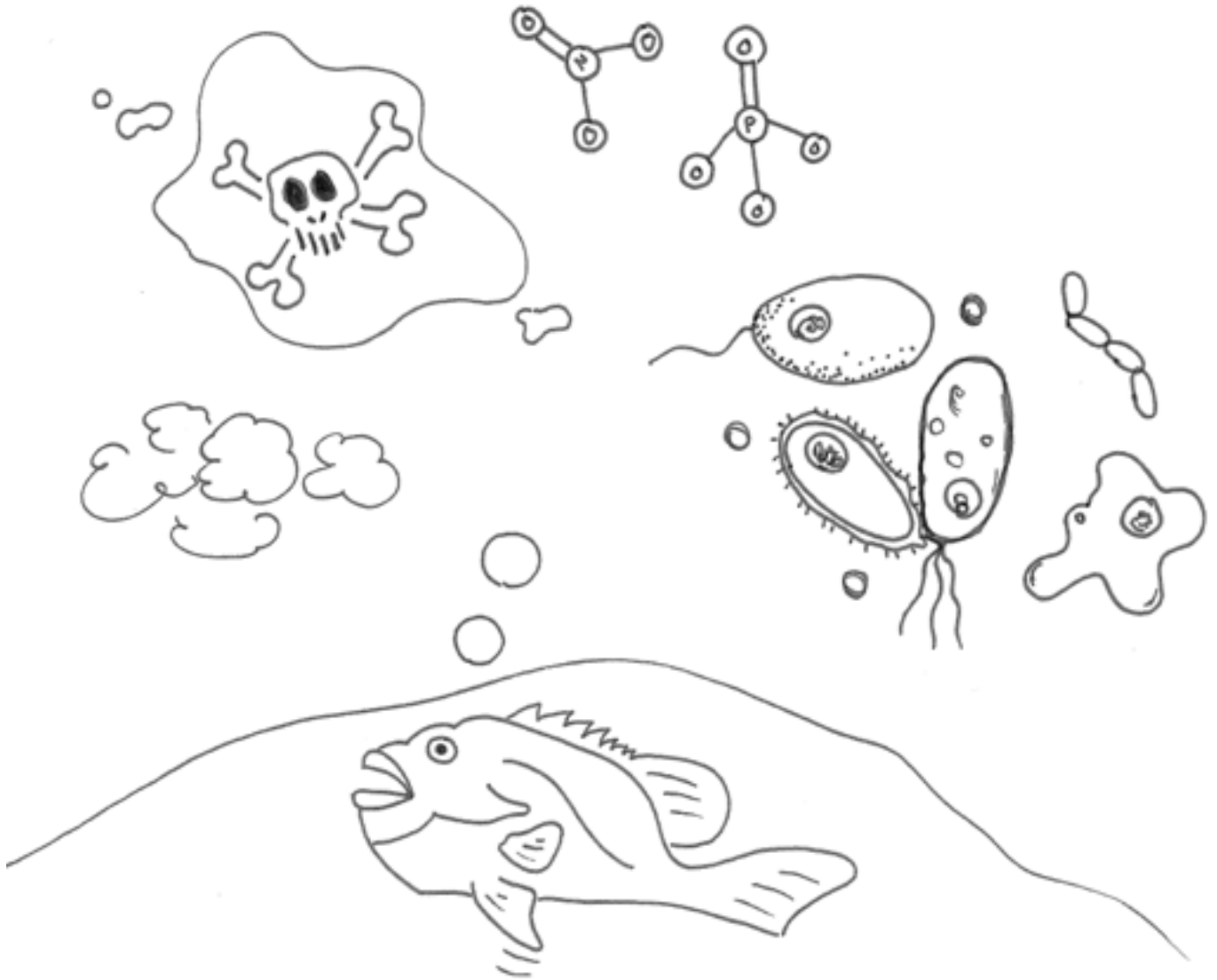


“When it rains and water is unable to soak into the ground, the water runs over land and is called **stormwater runoff**. Stormwater runoff picks up anything on the ground and washes it into water bodies like rivers, streams, and our pond.”



“So, can't we just pick up the trash and then everything will go back to normal?” William asked.

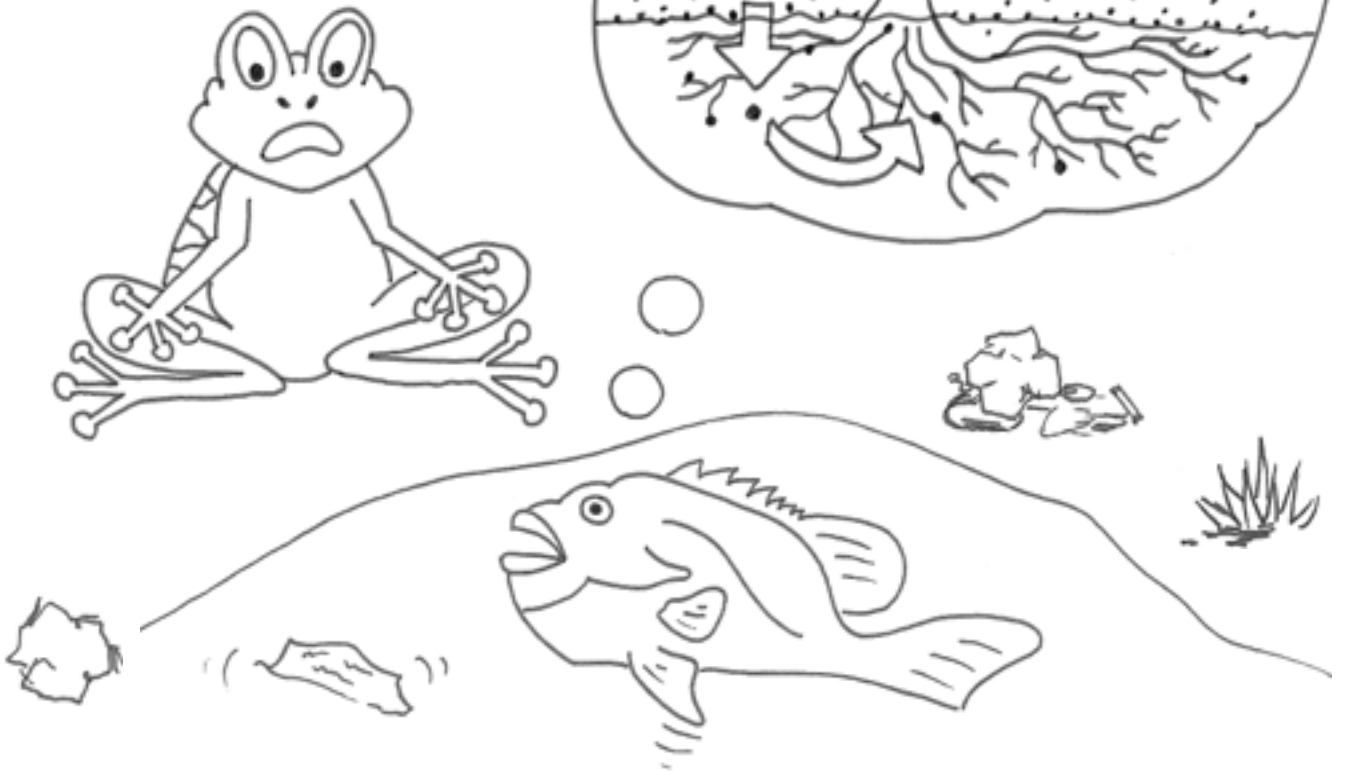
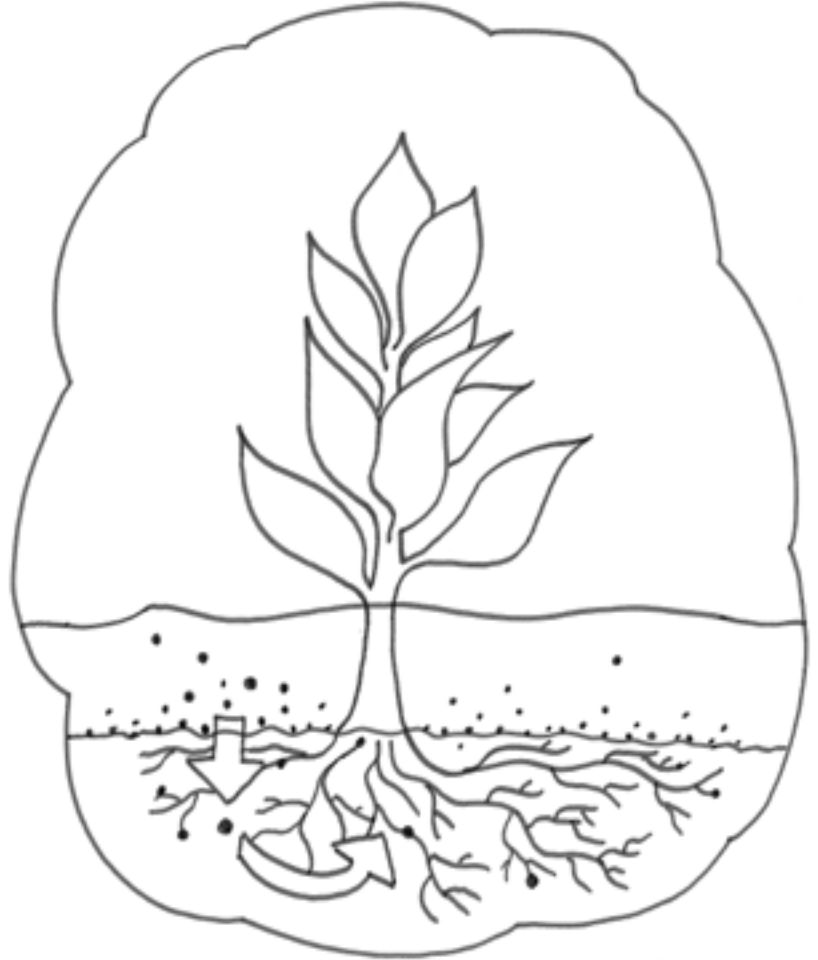


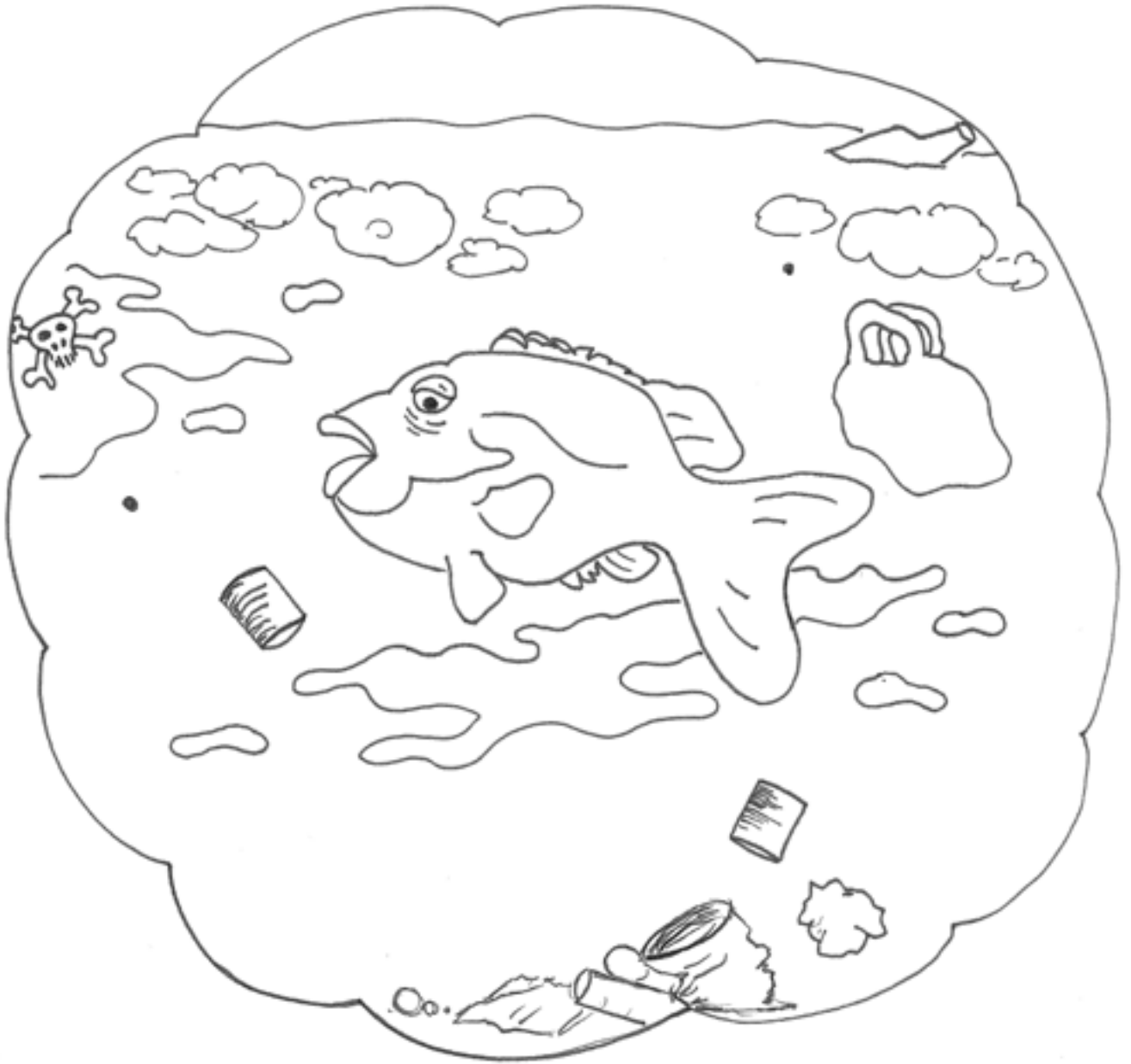


“I’m afraid it isn’t that easy,” coughed Mel. “Though picking up the trash is a great start, it won’t solve the problem. **Stormwater runoff** also washes **pollutants** like oil, **pesticides**, **nutrients**, chemicals, **bacteria**, and **sediment** into water bodies. Many of these things are too small to see, but they can be very harmful.”

“So, what can we do?” asked Edmund.

“We just have to wait on nature,” said Mel. “Over time, the plants at the edges of the pond will help filter out the **nutrients** and break down some of the chemicals, and the **sediment** will settle to the bottom of the pond.”



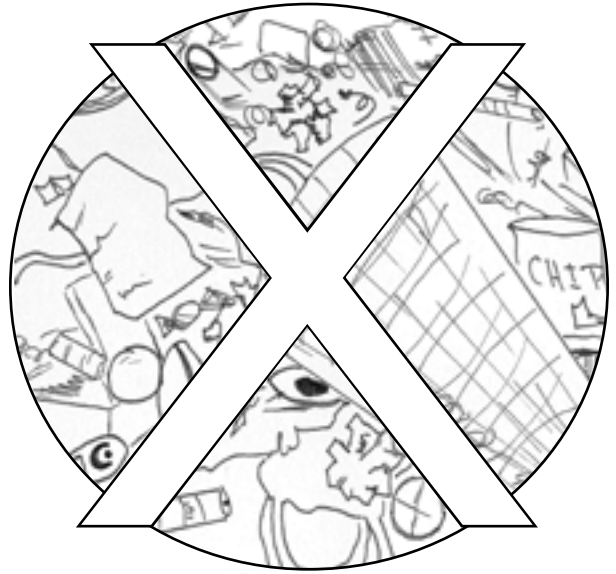


“My real concern is what will happen next time it rains.” Mel looked sad.

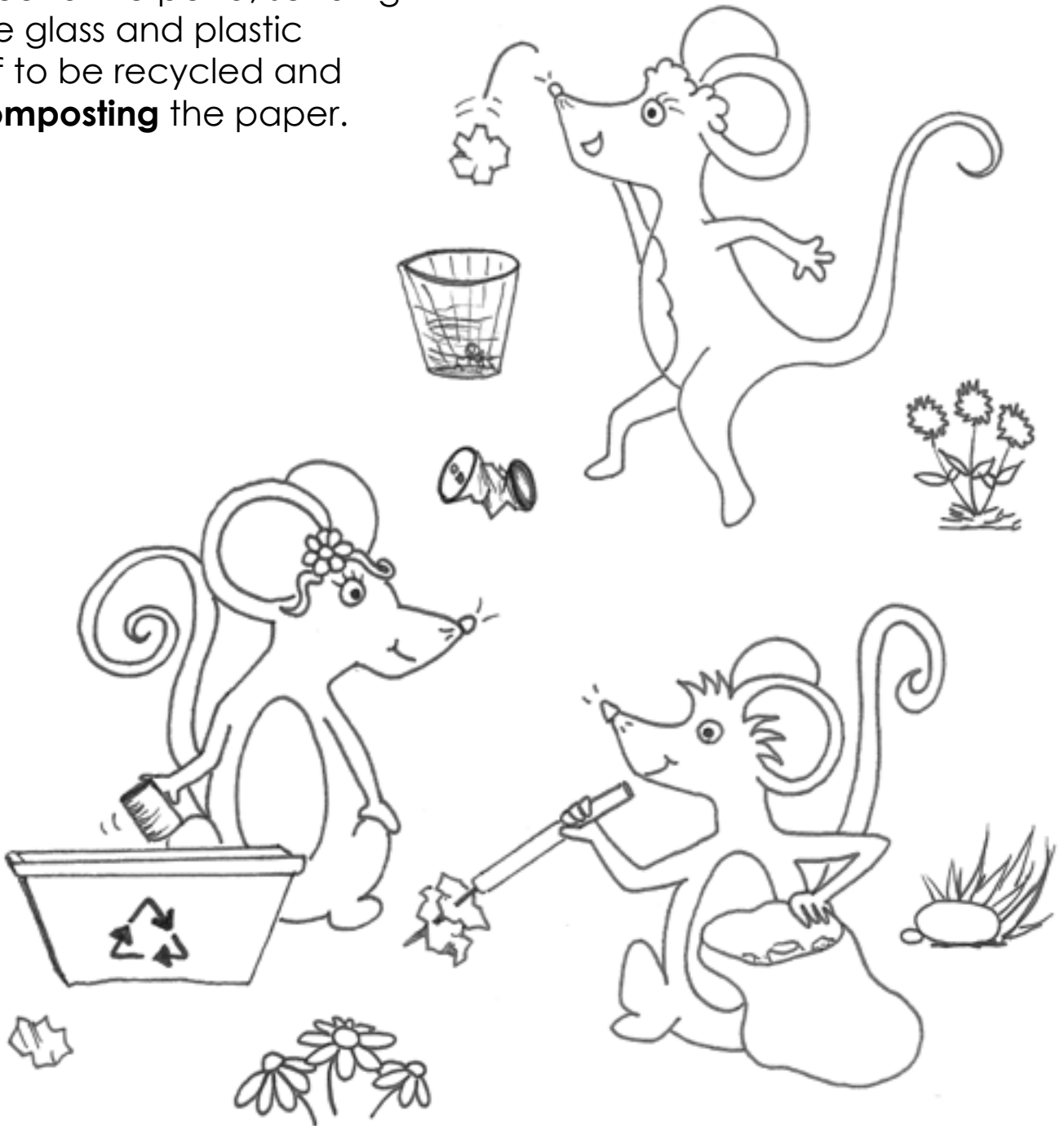
“I’m afraid it’s only going to get worse, and I’m already sick from the **pollutants** that washed into the water this time.”

“Not if we can help it!”
Edmund shouted. “We are
going to do everything
that we can to protect our
pond.”

William squeaked his
agreement, and the friends
got to work.



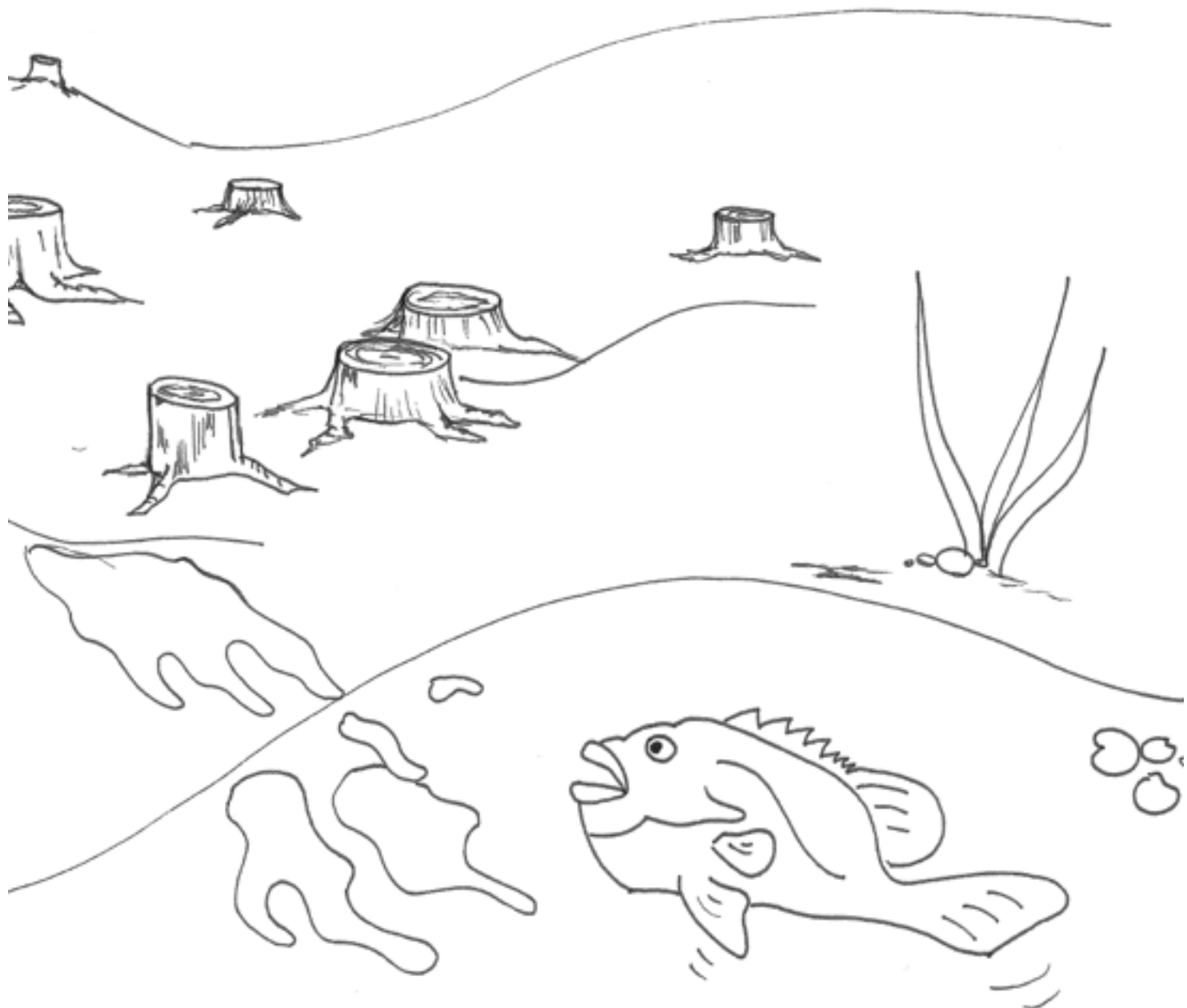
William gathered his family and they picked up litter around the pond, sending the glass and plastic off to be recycled and **composting** the paper.



Edmund explored the shore of the pond, planting grasses and other small plants as he went.

“These plants will help to filter **pollutants** from the **stormwater runoff** and slow the water down before it reaches the pond,” he thought.

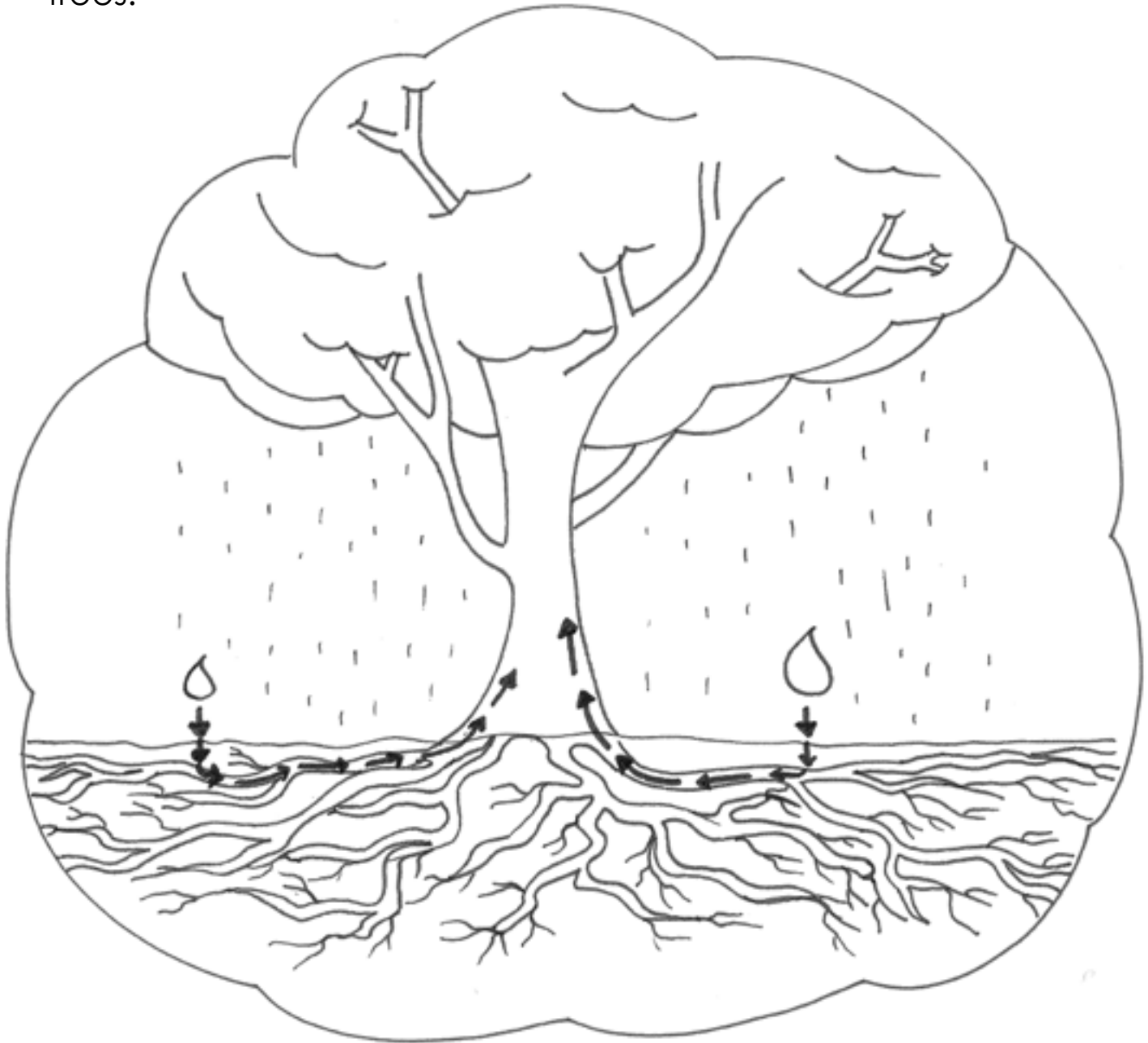


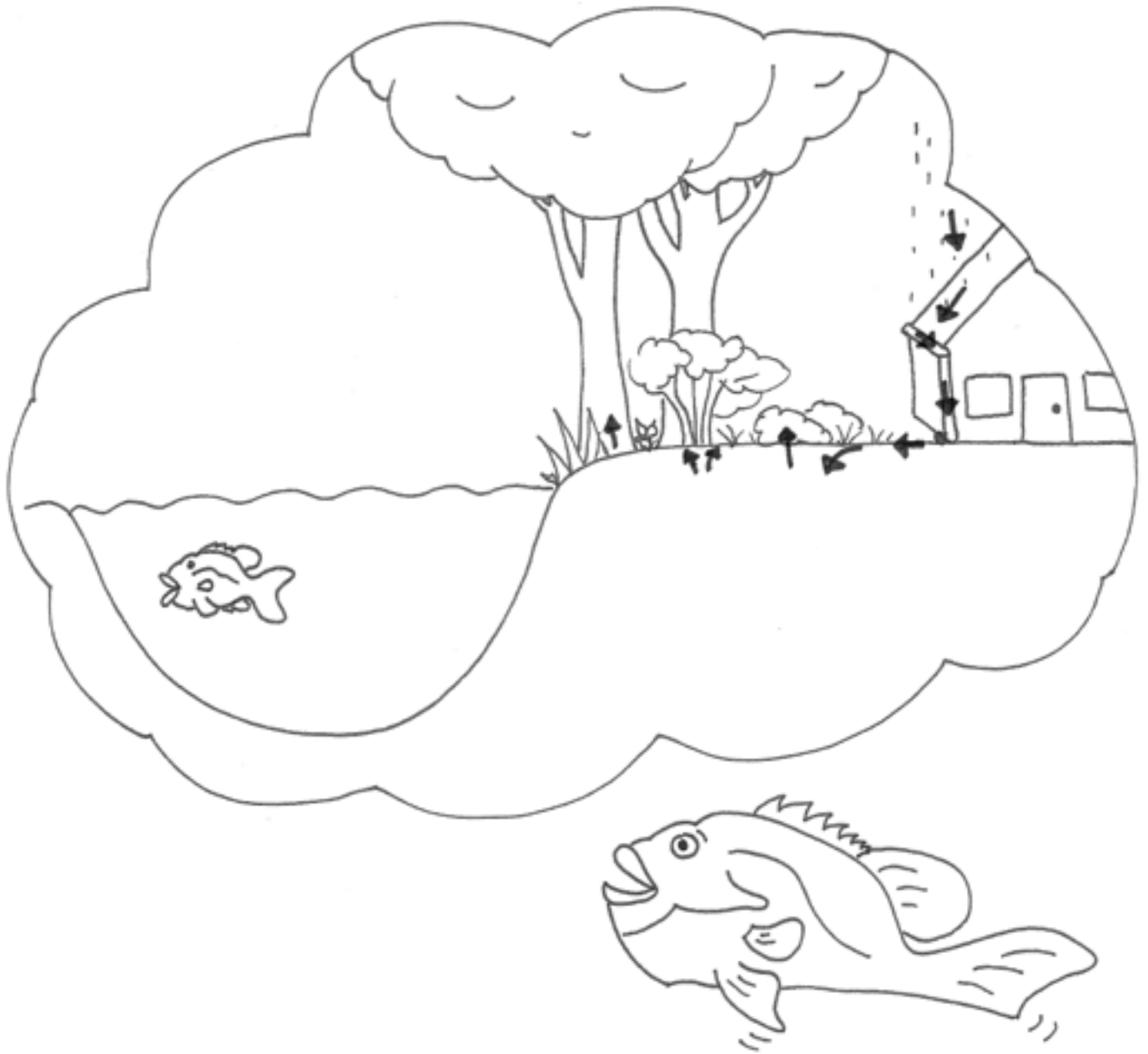


Mel tracked an oil slick on the water's surface back to the far bank.

"I think most of it is coming from this direction," She said. "There used to be a forest over there, but it was cut down not too long ago."

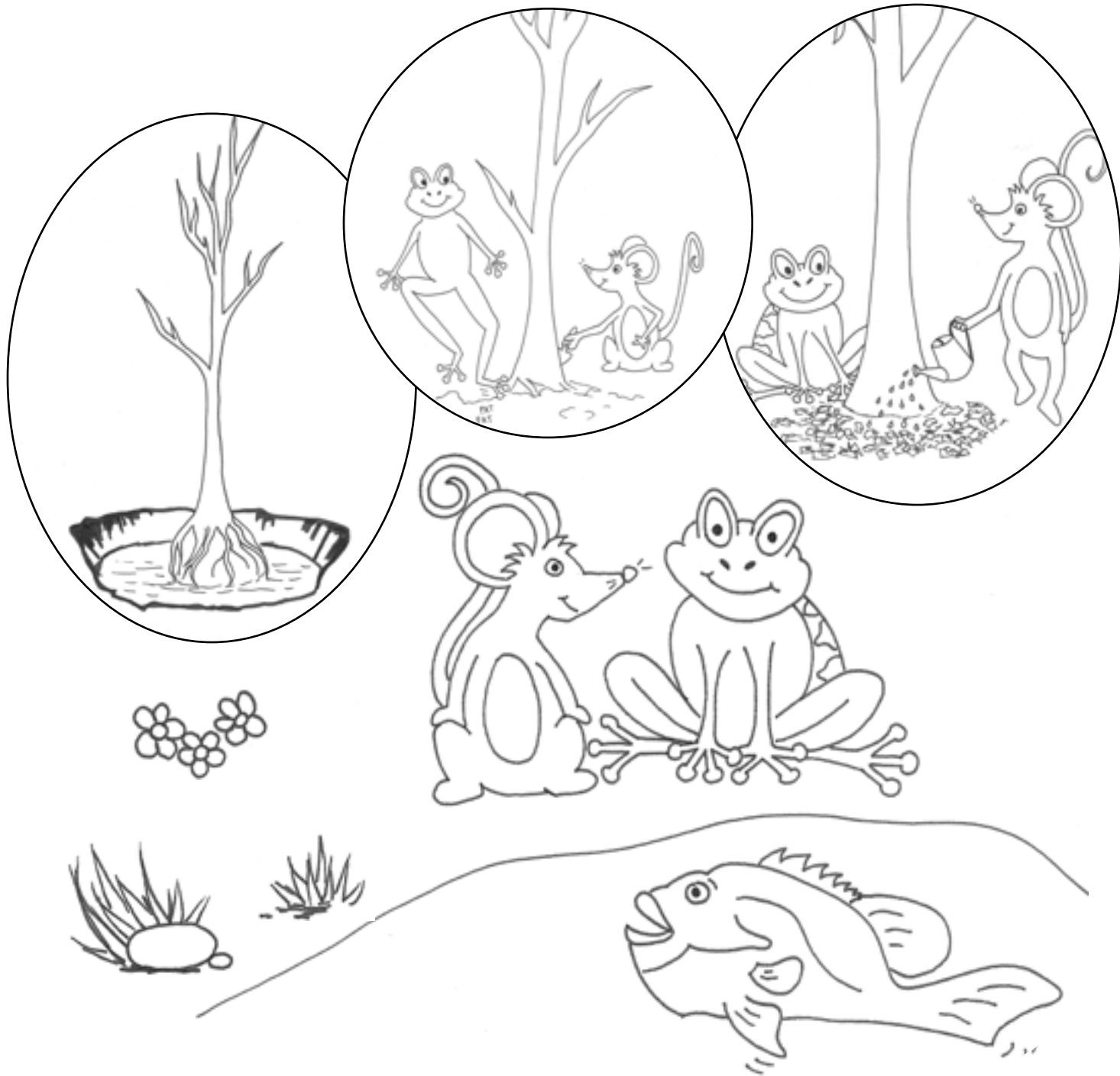
“That’s definitely part of the problem,” William squeaked. “We know that trees help to slow rainwater as it falls and help water soak into the ground by taking it into their roots, so that means that there would be less **stormwater runoff** if there were more trees.”





Mel nodded. “Trees, shrubs, and other plants are especially important near water bodies,” she said. “These planted areas are called **riparian buffers**, and in addition to reducing **stormwater runoff**, they help prevent flooding and provide important habitats for animals.”

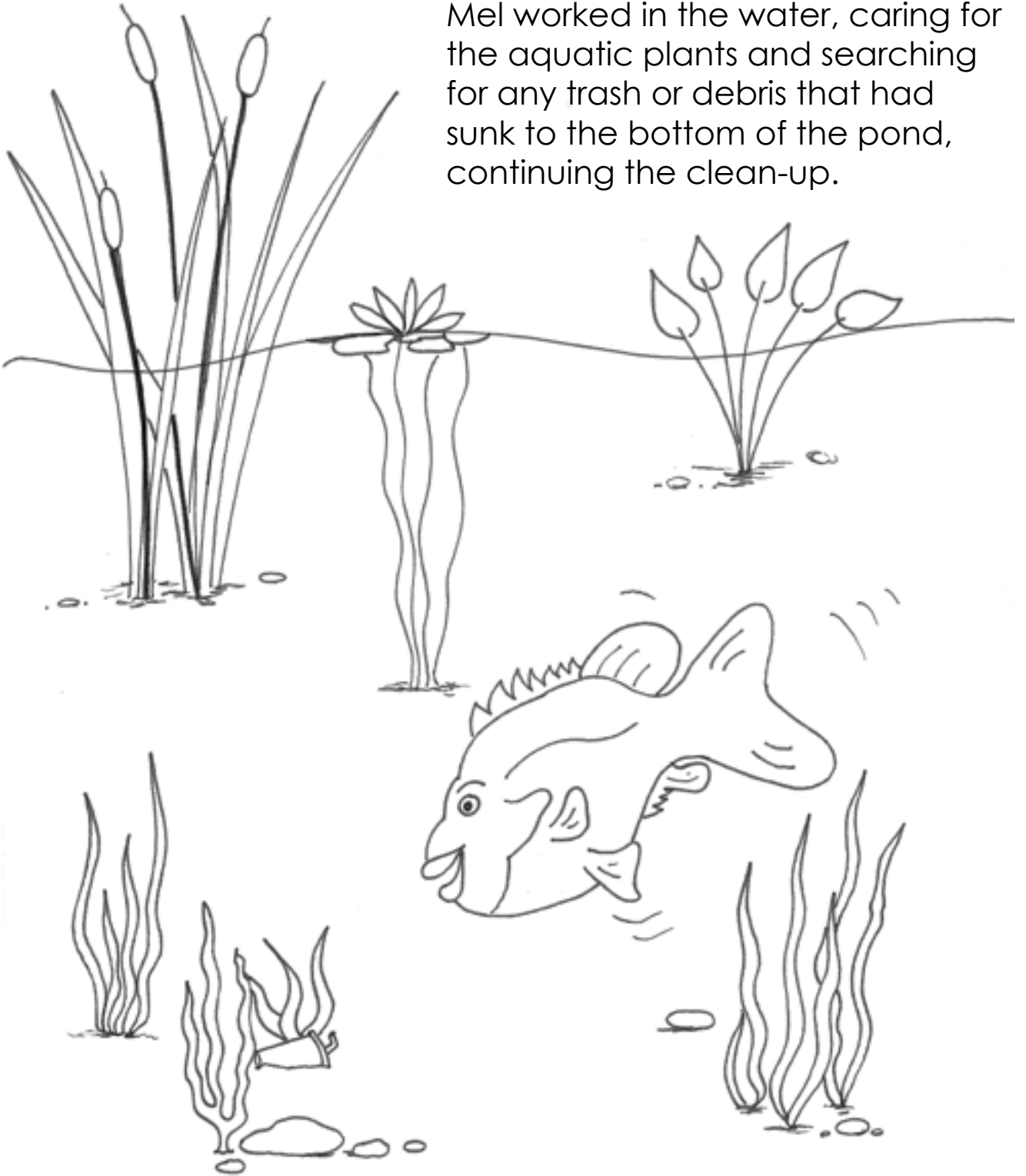
“That makes sense,” said Edmund, “so maybe we can help protect our pond by restoring the **riparian buffer**.” “Luckily,” William said, “We know how to plant trees!”



Over the next few weeks, Edmund and William planted lots of trees and shrubs along the far bank of the small pond.



Mel worked in the water, caring for the aquatic plants and searching for any trash or debris that had sunk to the bottom of the pond, continuing the clean-up.

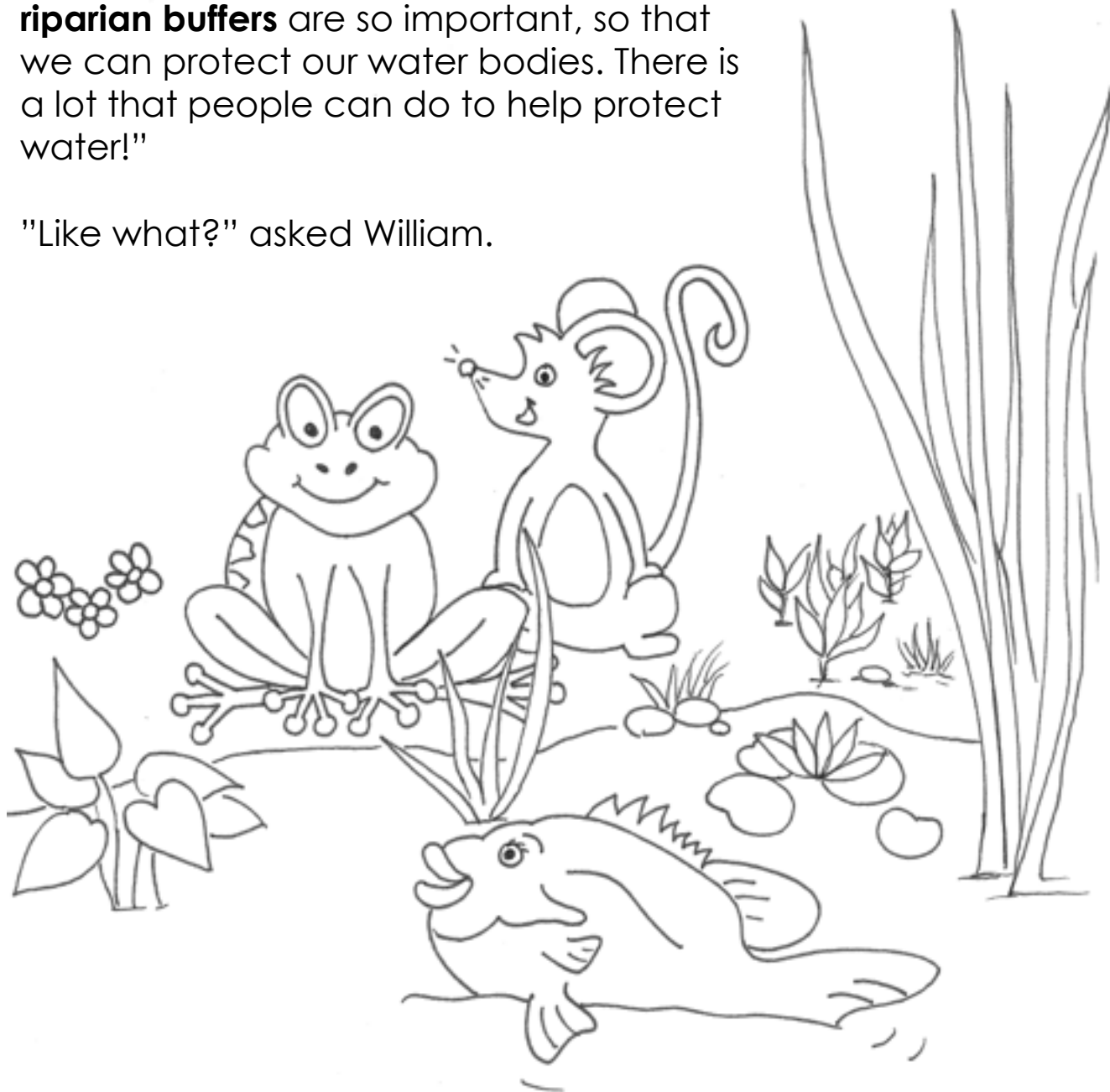


Over time, the plants in the pond used up the extra **nutrients**, and the **sediment** settled to the bottom. Finally, Mel's scales cleared up and she was a beautiful blue and yellow fish once again.



"It's not quite perfect," said Mel. "But it will heal over time. We just have to teach people about **stormwater runoff** and why **riparian buffers** are so important, so that we can protect our water bodies. There is a lot that people can do to help protect water!"

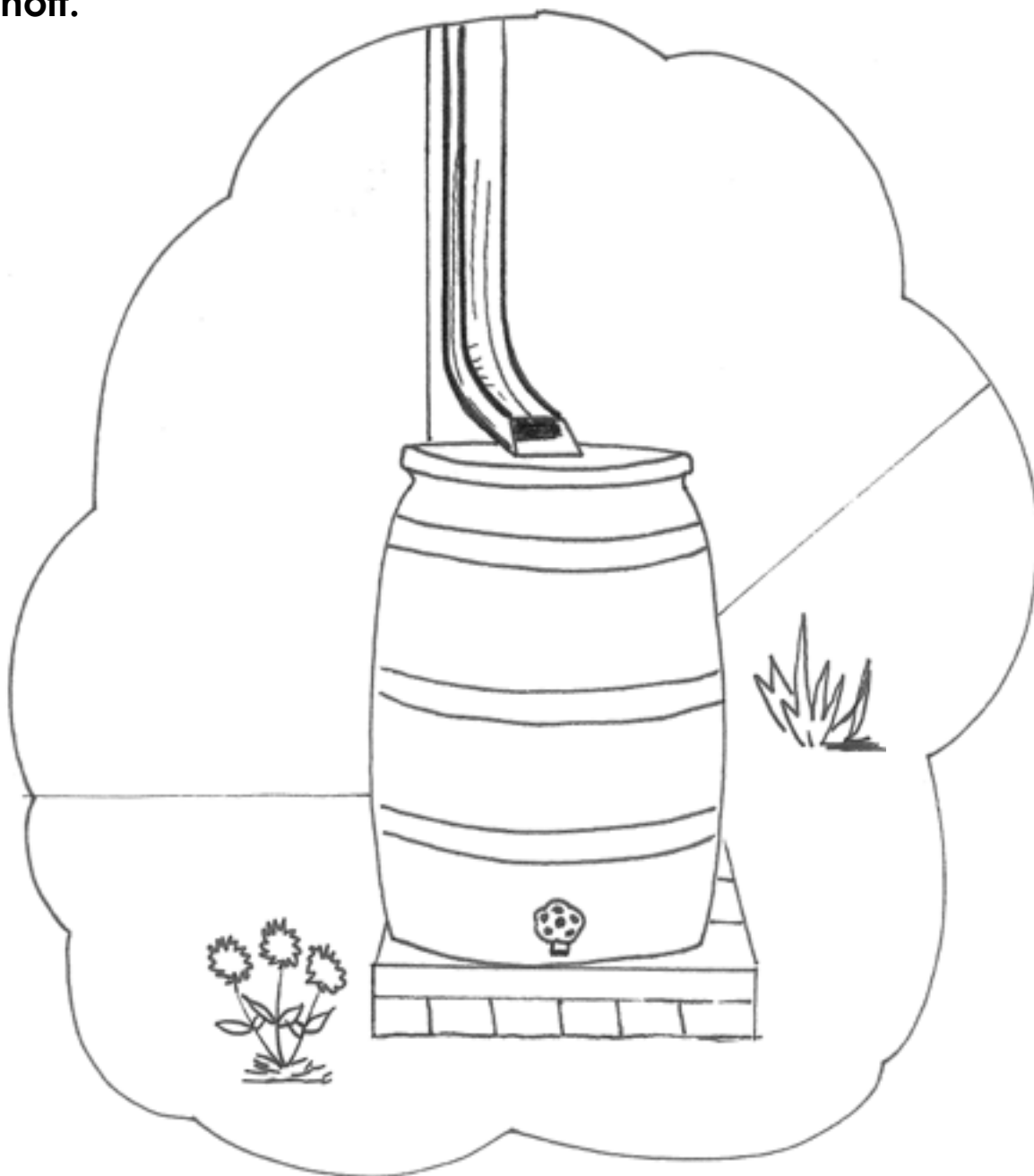
"Like what?" asked William.

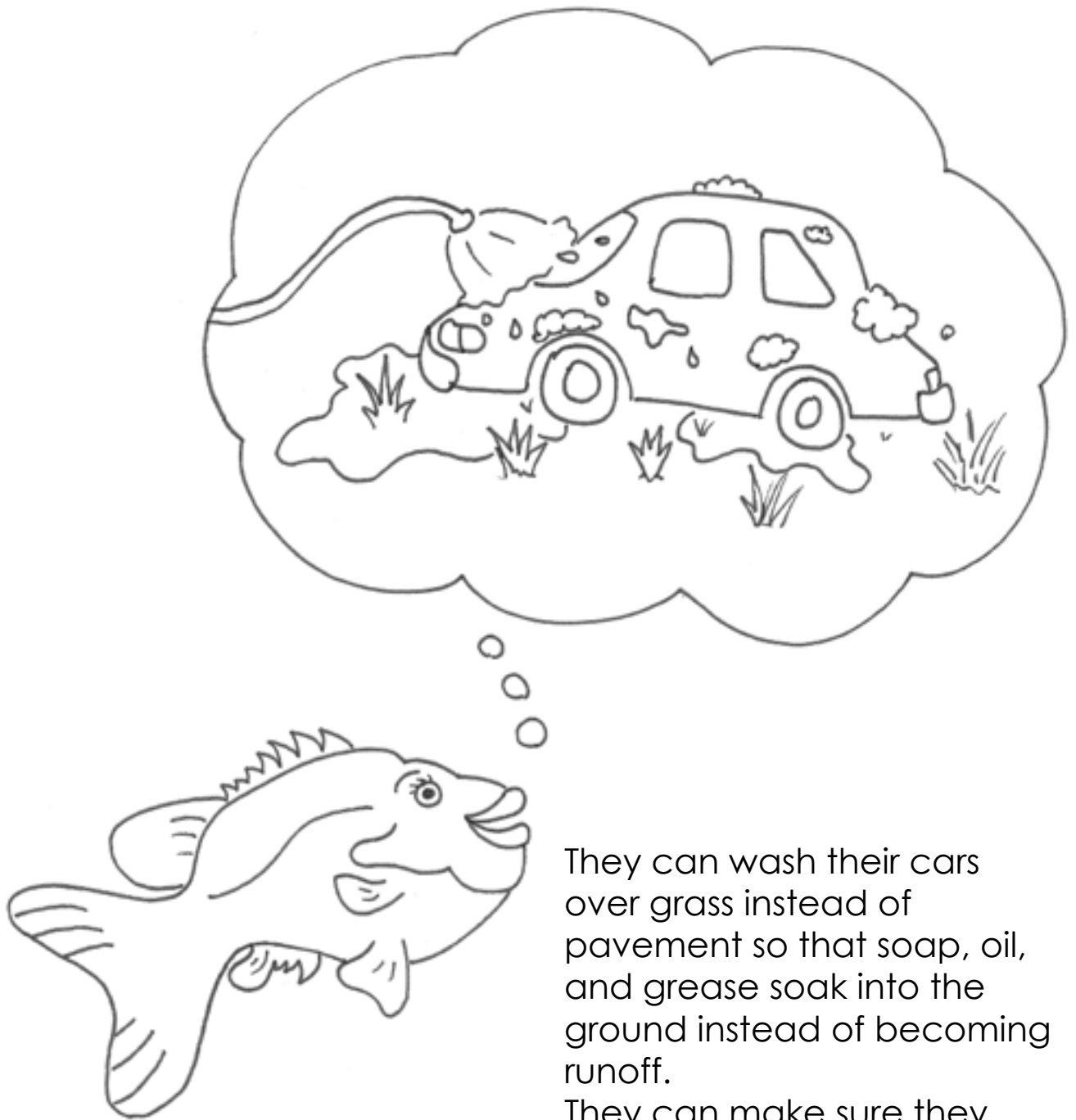


“They can pick up pet waste to keep **nutrients** and **bacteria** out of the water.



They can install **rain barrels** to collect rain water and use that water during dry times so that it doesn't become **stormwater runoff**.





They can wash their cars over grass instead of pavement so that soap, oil, and grease soak into the ground instead of becoming runoff.

They can make sure they never dump anything in a storm drain, and much more," Mel replied.

"I have a great idea," said Edmund, "I am going to learn all about **water quality** so that I can help teach others how to protect it, because everyone needs water!"

"I will help you," squeaked William, and then he yawned a great big yawn. "But, let's start tomorrow."





Mel smiled and flipped her fins,
and the three friends watched
the sun set over their beautiful
clean pond.



Glossary

Bacteria



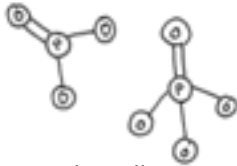
Bacteria are very small single-celled organisms that can be found in almost every environment on earth. Some bacteria can cause diseases and make people, animals, and even plants, sick.

Compost



Compost is created when natural materials are broken down into healthy soil.

Nutrients



Nutrients are naturally occurring substances that animals and plants need in order to be healthy. In small amounts, nutrients are good. When too many nutrients get washed into water bodies, they cause problems and can lead to the death of animals that live in the water.

Pesticide



A chemical that kills pests. Pesticides are used on farms, lawns, gardens, people, animals, and in and around buildings to prevent or kill pests like fleas, ticks, mosquitos, termites, aphids, and more.

Pollutant



A pollutant is anything that is out of place and has the potential to cause harm to an animal, plant, or the environment.

Rain Barrel

A rain barrel is a container used to collect and store rain water. The water stored in rain barrels can be used to water plants when it is dry, and collecting water from the roof of a building helps to reduce the amount of stormwater runoff during and following a rain event.

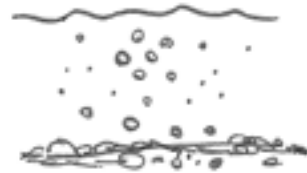


Riparian Buffer



A riparian buffer is an area alongside a water body that is kept planted. The riparian buffer helps to absorb pollutants and slow stormwater runoff during and after rain events.

Sediment



Sediment is made up of small bits of sand, rock, soil, and organic matter that are washed from the land into water bodies. Too much sediment can be harmful in water bodies.

Stormwater runoff



Stormwater runoff occurs when water from precipitation washes across the land. Stormwater runoff is a big problem in cities and suburbs because all of the roads, parking lots, and buildings keep water from soaking into the ground or being absorbed by plants.

Water Quality



Water quality refers to the suitability of water for use. Many different things can determine whether water is of good or poor quality.

The End

