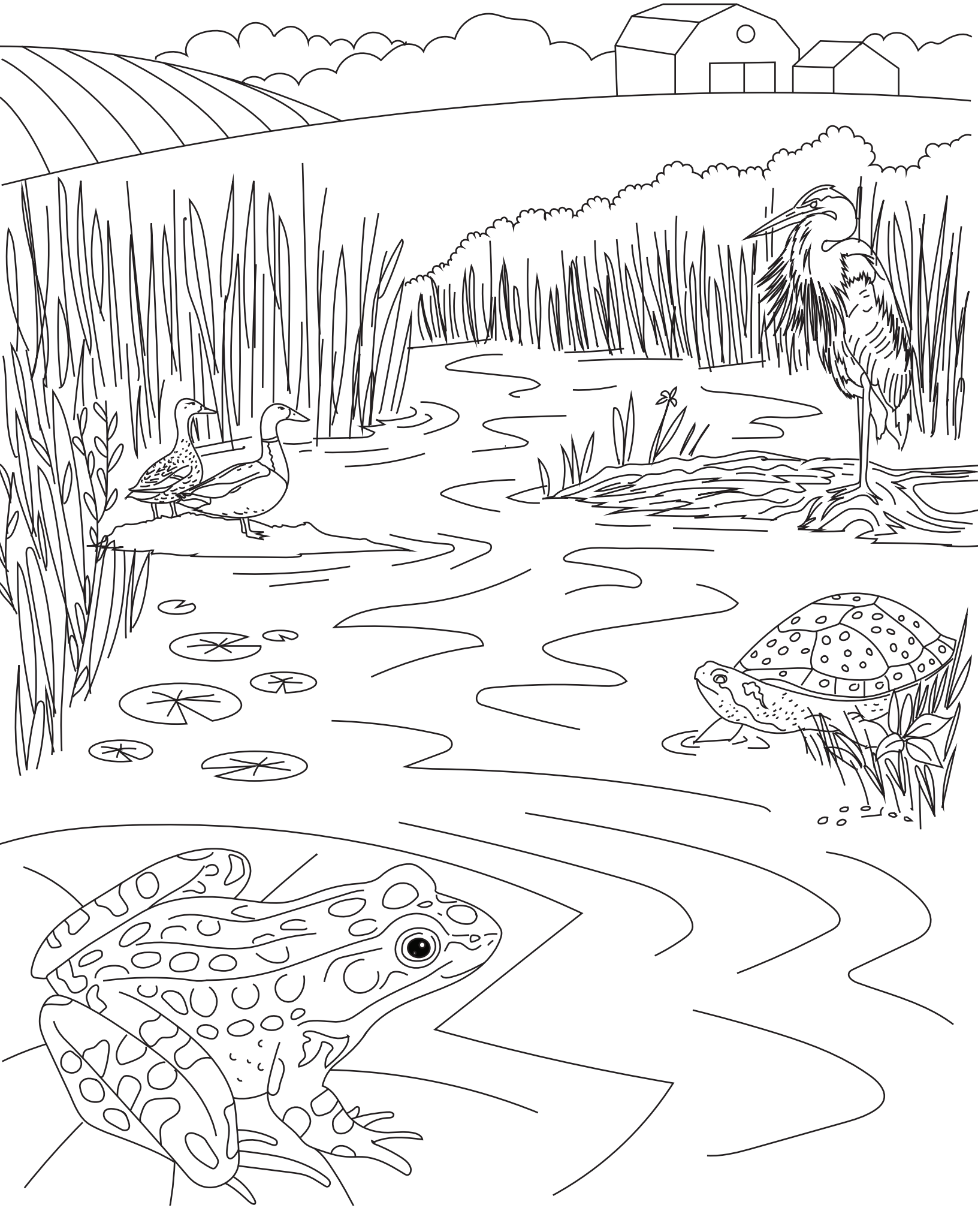
Habitat Stewardship
on Your Farm

Did you know that farms can do lots of important things to protect our environment? A farmer depends on their land to produce food, so treating the water, air and soil right is top priority! Whether it is protecting wildlife habitat, water, air or soil quality, there are actions that farmers can take to make sure that the environment is well taken care of on their farms. These actions are called environmental Best Management Practices and they are important for the environment and the farm business.

Taking care of the environment is everyone's responsibility, and the activities in this book will help you get to know some of the Best Management Practices that farmers can use to do their part in protecting the environment.

Wetlands

Wetlands may not look like much, but they're one of the most productive and important habitats on Earth! A **habitat** is the natural home of a plant or animal. **Wetlands** are created when water becomes trapped and soaks an area of land. They have an important role in managing floods, filtering water, and providing habitat for some of Ontario's rarest plant, wildlife, and fish species.



Bats

Bats are **insectivores** — this means they only eat insects. Which is great news for farmers, because bats help keep insect pest populations low! This is great for protecting crops from insects. The **Little brown bat** (a species of bat that lives in Ontario) can eat its weight in insects in just one night—that's about 600 insects per hour!

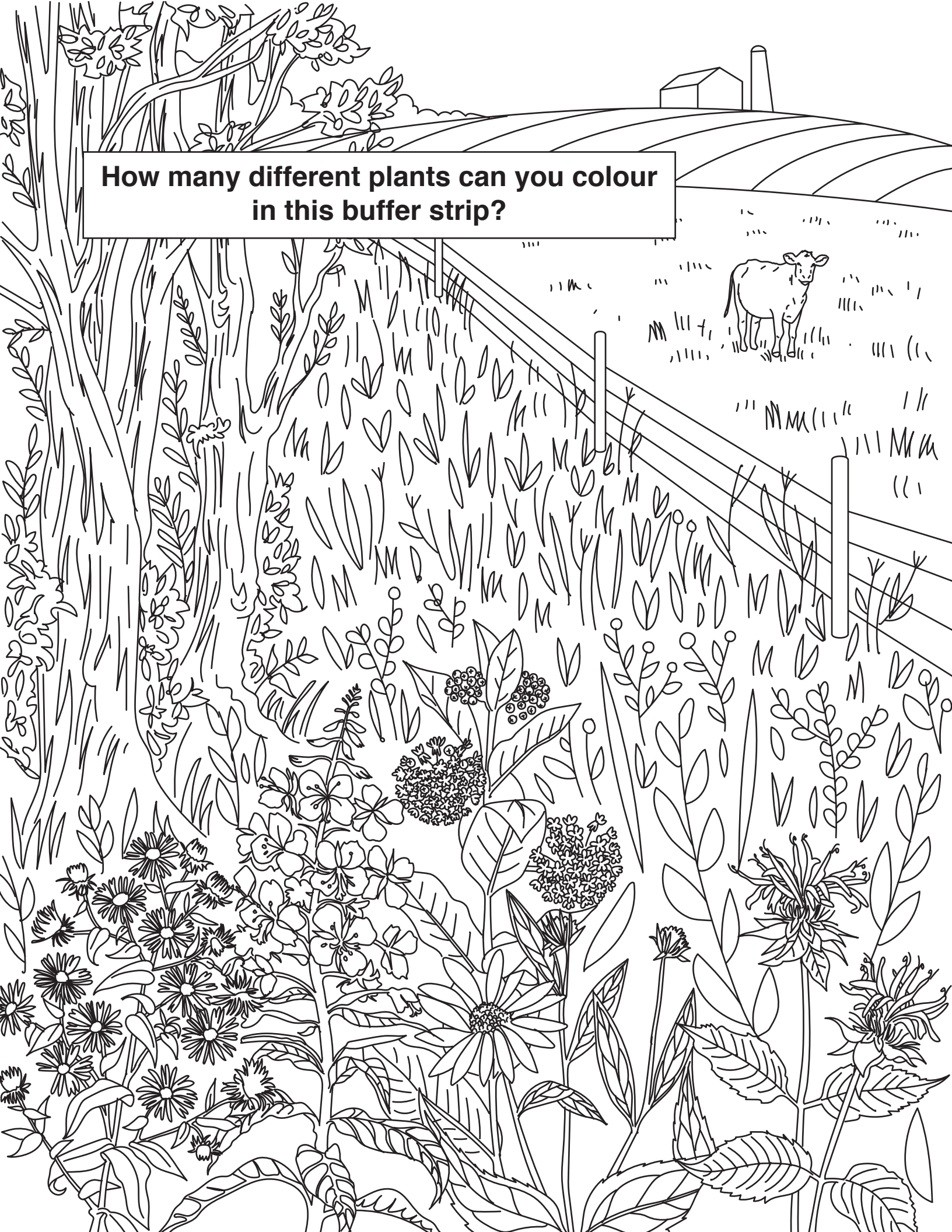
Bats **hibernate** in the winter, which means they go into a deep sleep all winter long to conserve their energy while there are no insects to eat. Bats like to roost in caves and tree cavities, and sometimes farm buildings to keep safe during the day and while they hibernate over winter. Leaving old and hollow trees standing on farms or putting up bat houses gives bats more safe places to roost. And while they're there, they'll happily take care of more than a few insects!

How many bats can you find in this picture?

answer: 20 bats

Buffer Strips

Areas of grasses, shrubs, and trees planted along field edges are called **buffer strips**. Planting vegetation along field edges helps protect natural areas like streams or forests by holding soil and nutrients in place when it rains. How do buffer strips hold on to soil? Plant roots weave together under the soil surface to form a network of roots. This network of roots protects nearby natural areas. Having many different types of plants in the root network of a buffer can help to make stream banks and other natural areas even stronger. A good buffer strip keeps soil and other nutrients in the field and out of the stream! Buffer strips can also provide habitat for plants and animals to live.


How many different plants can you colour in this buffer strip?

Invasive Plant Species

Ontario is home to many native species of plants and animals. These species and their habitats make up **ecosystems** in Ontario. Because they have lived here for a very long time, these species get along and balance the natural system they are part of.

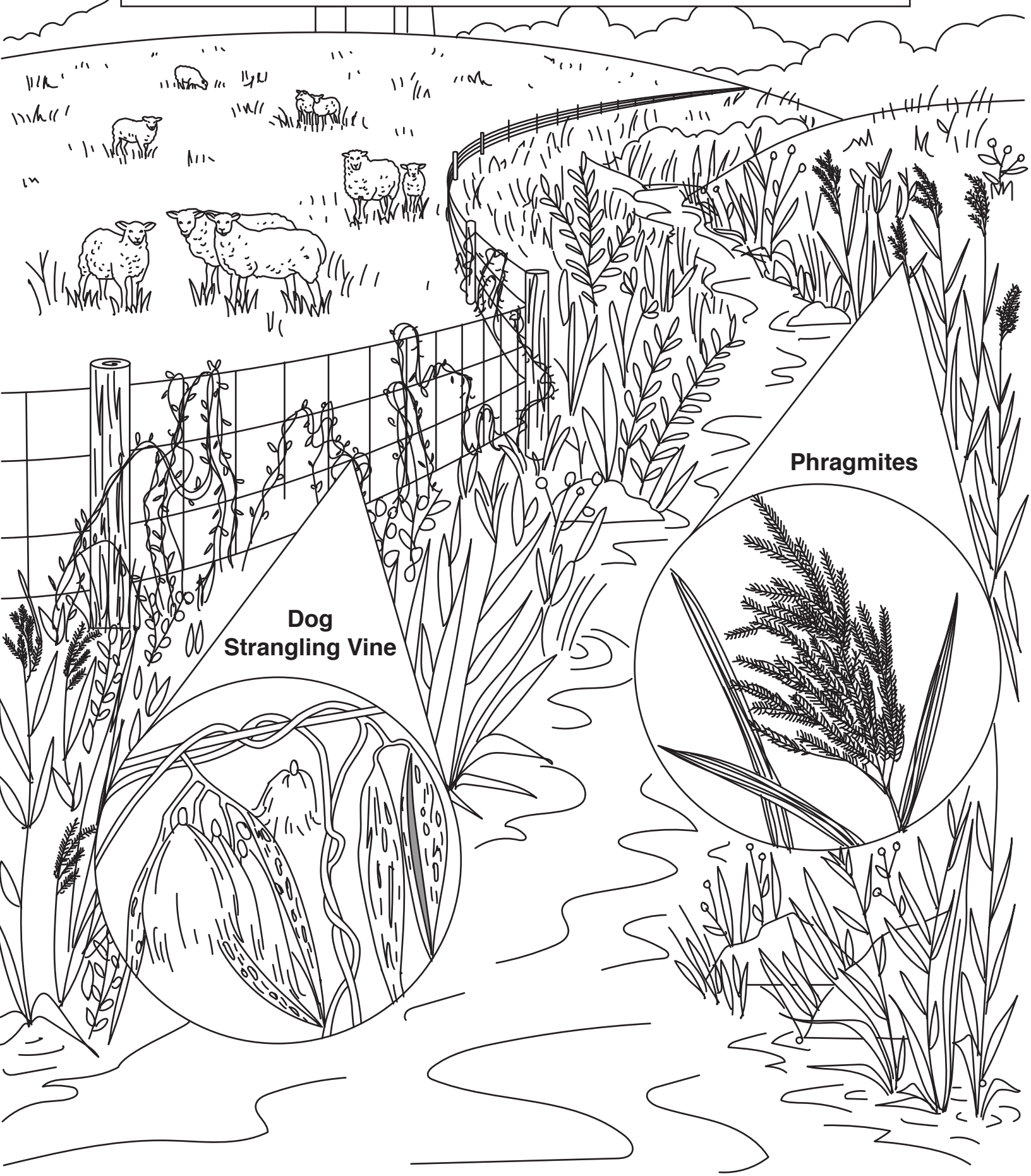
Every so often, a new species is introduced into the ecosystem that upsets the balance of native plants and animals. These disruptive new species are called **invasive species**. Plants or animals can be invasive species, but one thing is for sure: these species can cause big problems for native species!

Because invasive species are not part of the native ecosystems, they often do not have predators to keep their populations from getting too big. Humans can help to keep the ecosystem in balance by planting native plants and removing invasive plant species.

Phragmites is an invasive plant species that grows in wetlands, streams, rivers and lakes. It can become so overgrown that the natural ecosystem cannot work properly.

Dog strangling vine is another invasive plant species that grows quickly in fencerows. This vine can take up so much space so quickly that native plants cannot compete with it for sunlight, which is of course essential to the survival of plants.

Have you spotted these invaders near your farm?
Colour the phragmites and dog-strangling vine red.



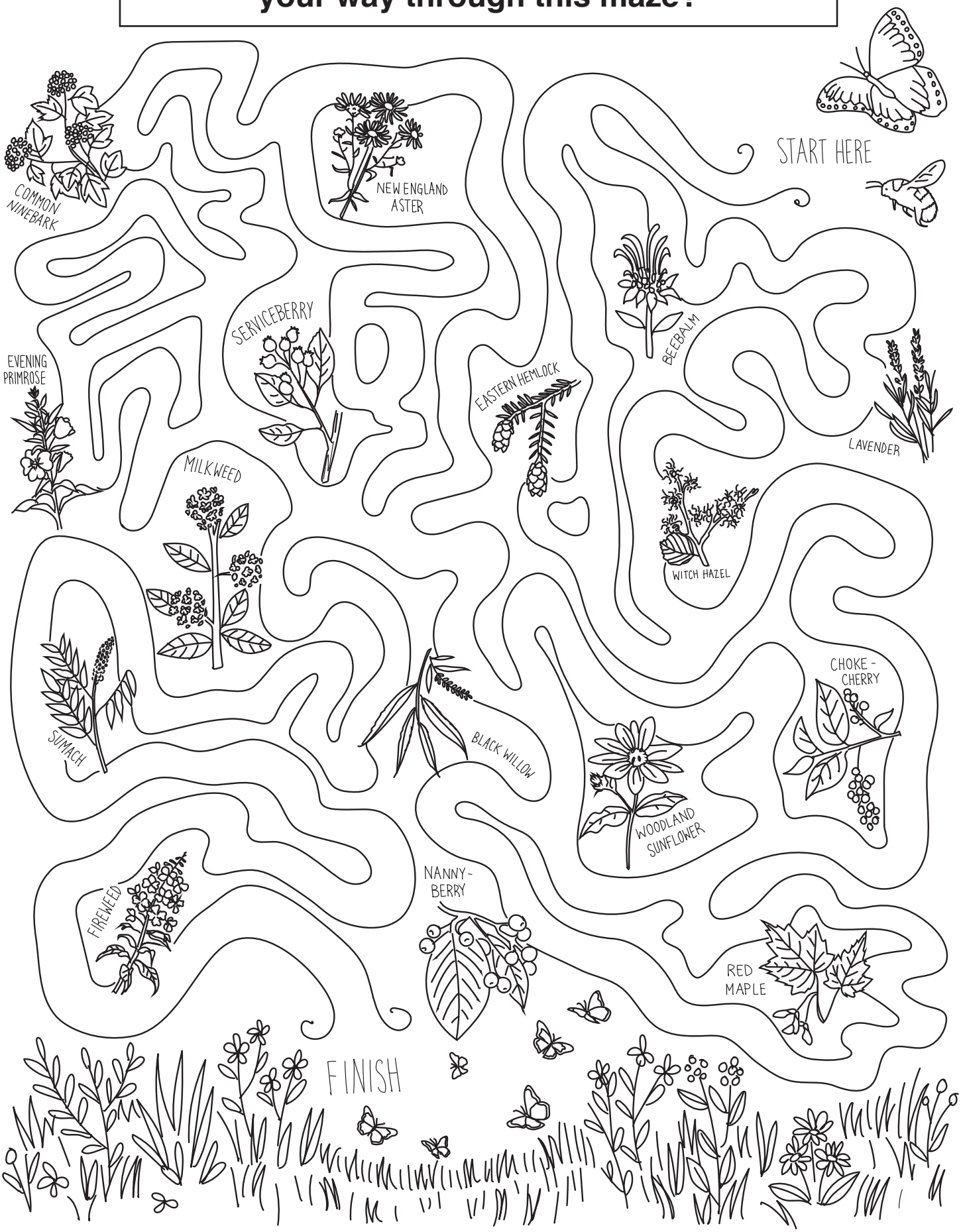
Pollinators

Pollination happens when pollen is moved from one plant to another, this helps crops and other plant species grow—actually, most wouldn't grow without it! Bees, flies, butterflies, and even some mammals play an important role in pollination. These species are called **pollinators**.

Pollinators fly, crawl, or jump from flower to flower across food crops, trees, grasses - and any other plant that flowers - collecting plant nectar and pollen and as food for themselves and accidentally moving little bits of the pollen between the plants. Pollinators are incredibly important to our environment.

Bees can be real buzzie bodies! A bumble bee can visit as many as 6,000 flowers in one day!

How many flowers can you visit as you make your way through this maze?

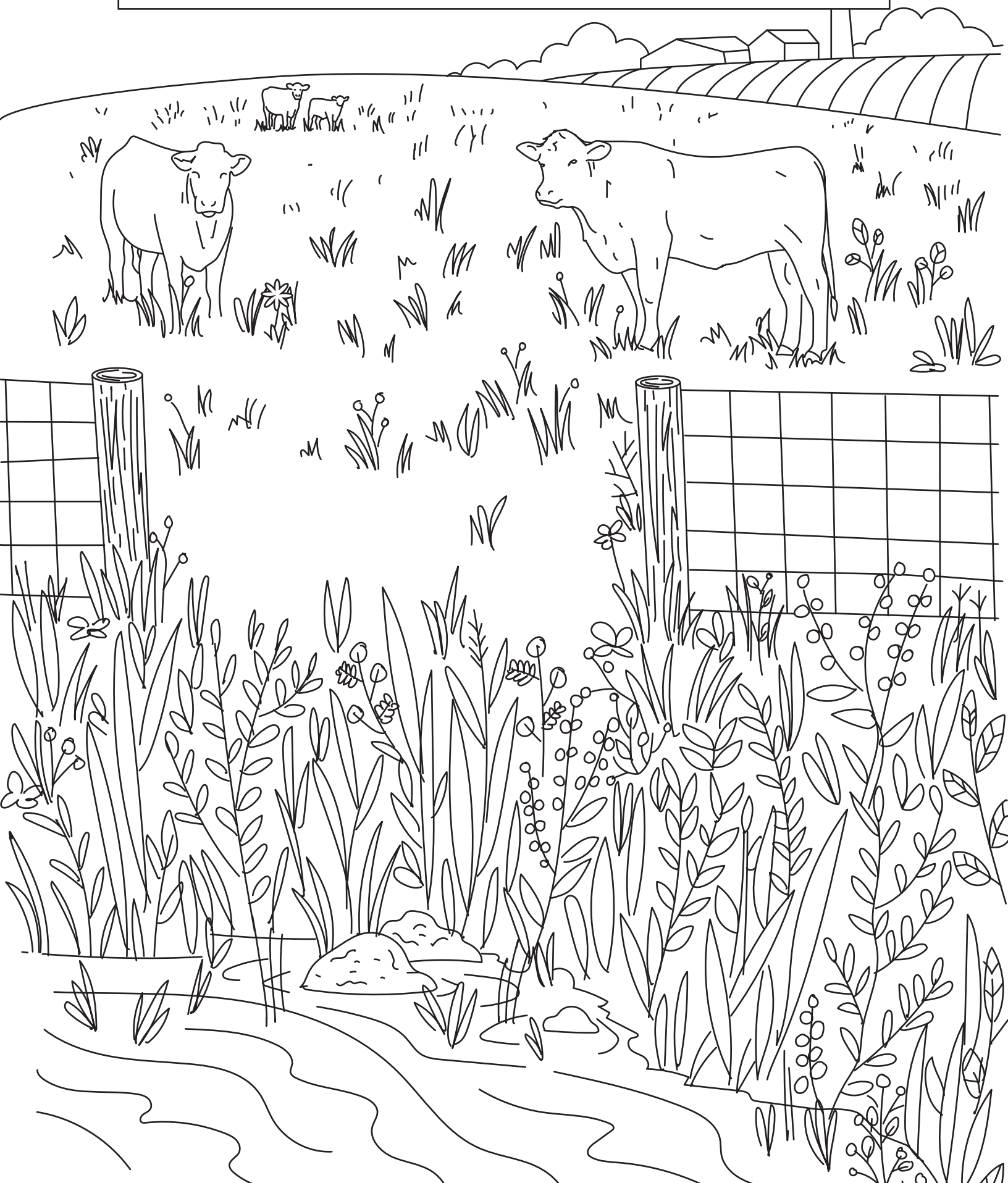


Exclusion Fence

Waterways provide valuable habitat for many types of wildlife. While many species live in the water, others depend on the land around water for habitat. Clean, cold water and healthy **vegetation** – plants! - around water are important to a healthy ecosystem.

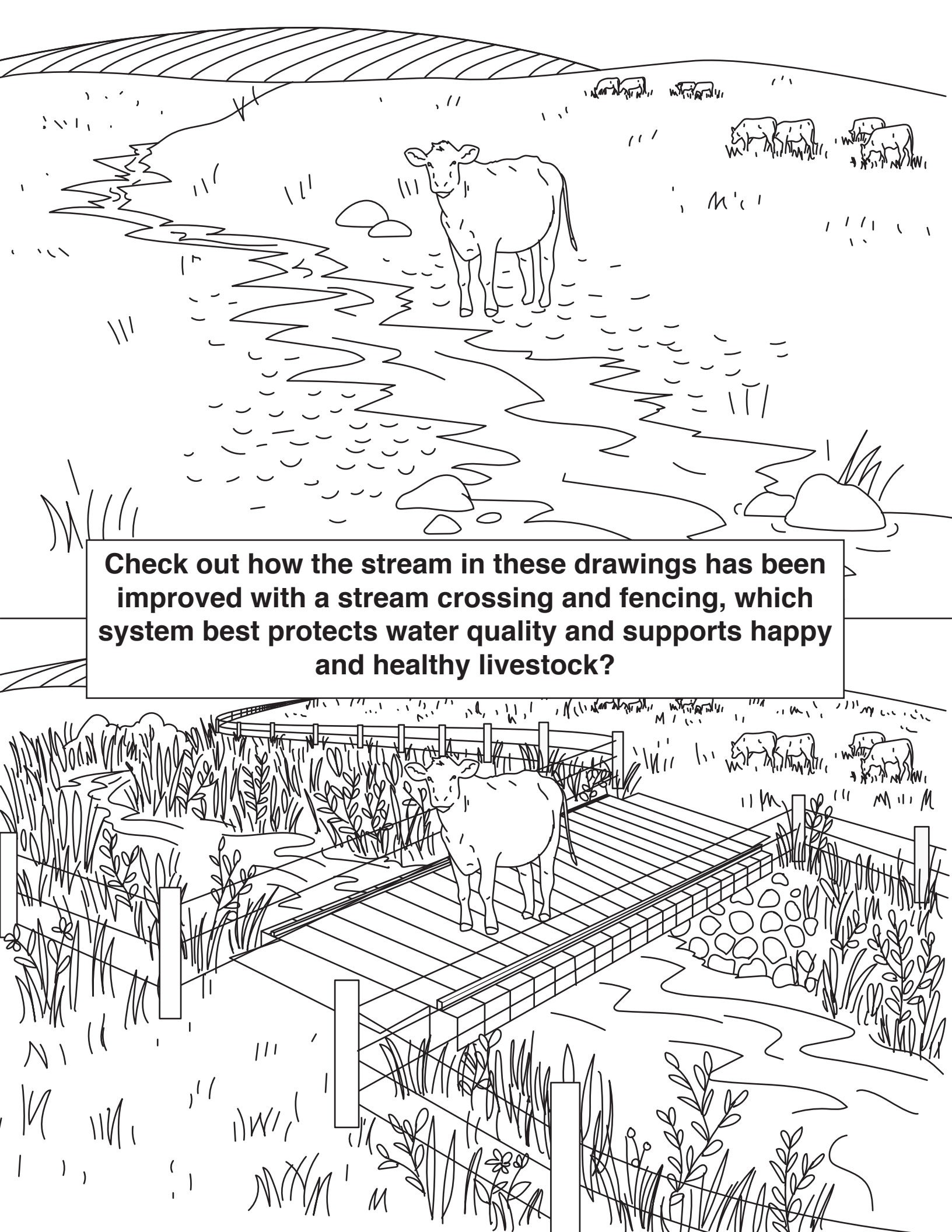
Livestock trampling through streams and rivers can be hard on the natural ecosystem and water quality. Cattle walking through waterways can poop in the water and their hooves turn up the soil, making the water muddy. This hurts the habitat and livestock, who can get sick from walking through the water every day. Fences that keep cattle and other livestock out of the water and away from water's edge help keep the water clean and the vegetation healthy for the creatures living there.

Help protect this waterway to keep it healthy and natural.



Stream Crossing

Keeping streams and other waterways healthy and clean is very important. Driving vehicles through streams disturbs the soil and vegetation on the stream bottom and along its banks. Livestock crossing through the river can also cause damage to this ecosystem. Building a stream crossing can help maintain healthy stream banks and bottoms.



Check out how the stream in these drawings has been improved with a stream crossing and fencing, which system best protects water quality and supports happy and healthy livestock?

Windbreaks

Windbreaks are areas where trees and shrubs grow along the edge of a field. They are planted to help protect the field from wind erosion. **Wind erosion** happens when the wind picks up soil and blows it where it shouldn't go—soil should stay put! Windbreaks make it harder for the wind to blow the soil around.

While protecting the field from wind erosion, windbreaks also provide habitat for wildlife species! The mix of trees and other plants provide food and shelter to many different species, like the **eastern foxsnake**, **American badger**, and **rusty-patched bumble bee**.

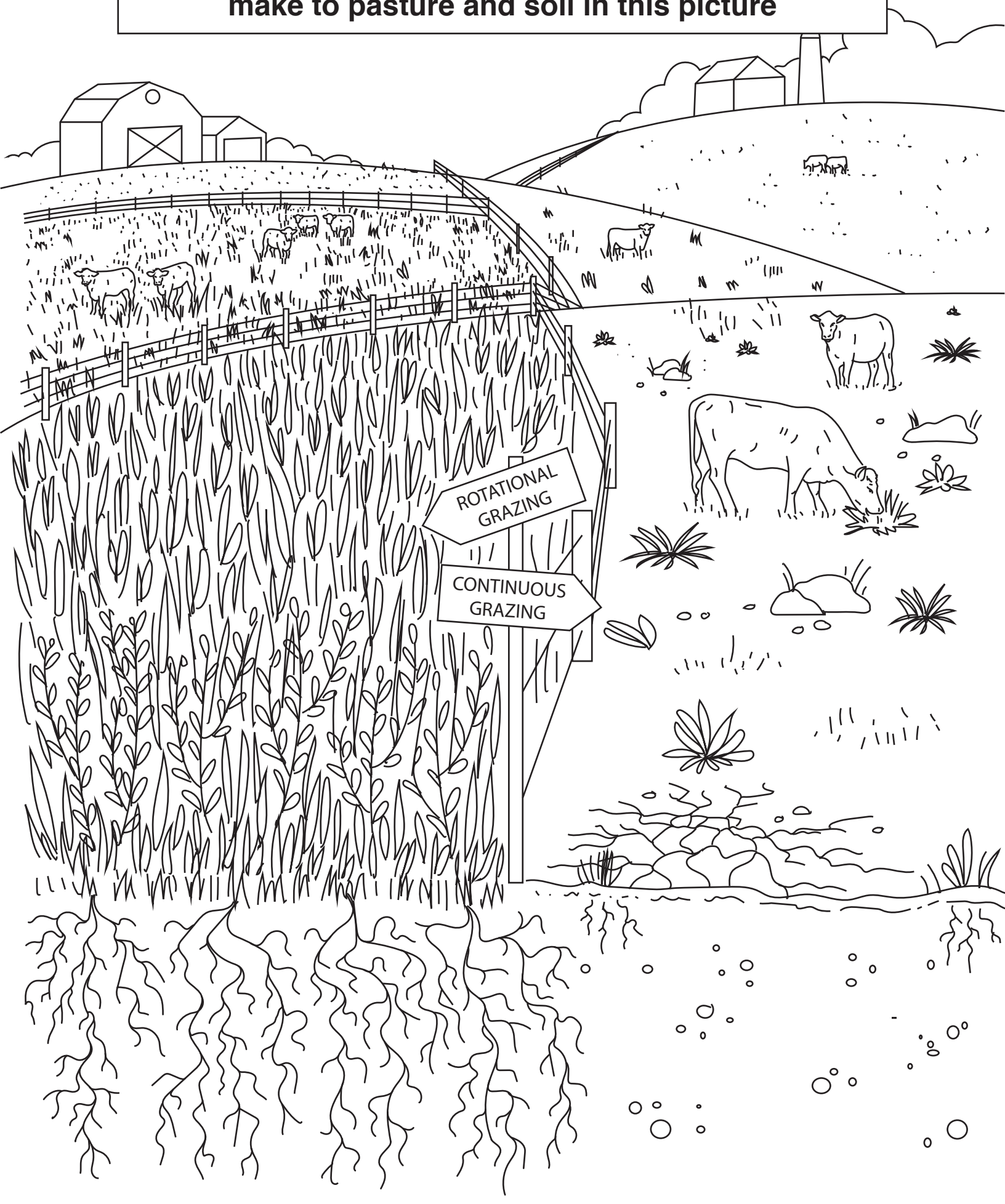
Connect the dots in this picture to see who is living in this windbreak.

Rotational Grazing

Rotational grazing uses movable temporary fencing to divide a pasture into many smaller pastures for cattle and other livestock. Livestock can be moved to a new pasture every few days. This keeps the livestock from eating too much grass in one area and gives the pasture time to rest and grow back before the livestock are allowed to eat from it again.

Rotational grazing is very good for soil health, and healthy soil grows healthy food for livestock.

Check out the difference rotational grazing can make to pasture and soil in this picture



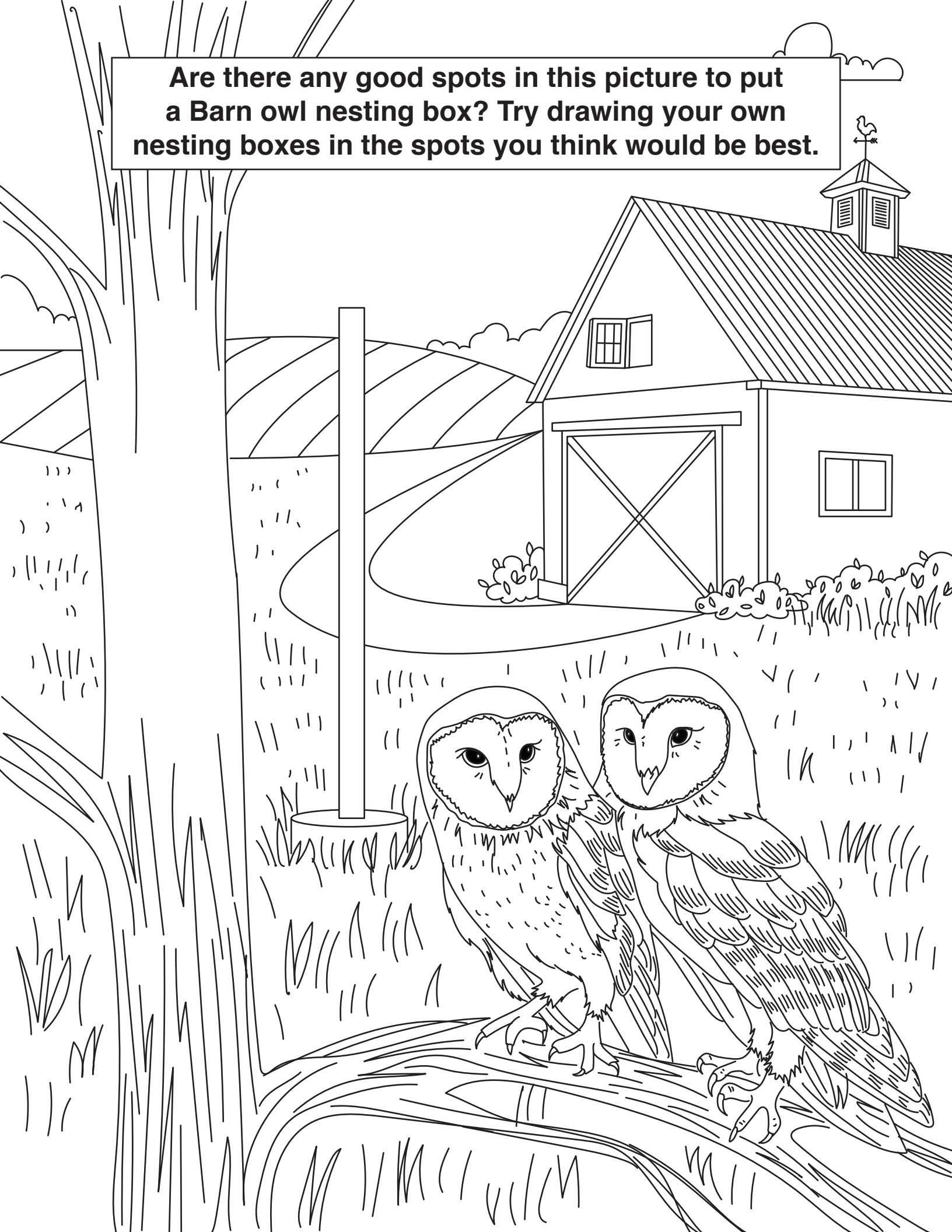
Barn Owls

Barn owls are **nocturnal** which means they sleep during the day and are active at night. Barn owls like to live near farms with big pastures where lots of mice are around for them to eat, they don't like to live in cities.

Barn owls have fantastic hearing, which helps them to catch their prey while in flight! They have to be light and nimble to hunt while flying, which means they can't build up fat to keep them warm during the winter like many other wild animals do. This means they need warm places to nest, especially in the winter.

Barn Owls

Barn owls don't build nests like a lot of other birds. They make nests by scattering their food pellets (the fur and bones they spit up after eating their prey whole!) in a flat place, sort of like a bed. Barn owls can build their nests in hollow trees that keep them snug and warm in the winter. Sometimes it is hard to find hollow trees to nest in and barn owls like the warmth of barns – that's how they got their name! Humans can help barn owls by putting up nesting boxes in trees, barns, or on special poles just for nesting boxes. Barn owls use nest boxes to keep warm in the winter and raise their owlets (baby owls!).

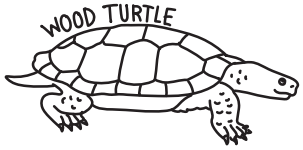

Are there any good spots in this picture to put a Barn owl nesting box? Try drawing your own nesting boxes in the spots you think would be best.

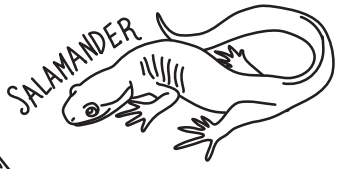
Connectivity

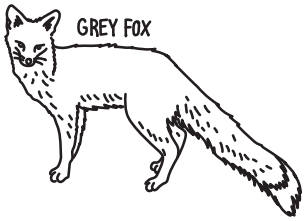
Wildlife need lots of natural space to find shelter and food. Some species use a few different habitats to meet their needs. They might use a habitat like a stream, AND a forest habitat. When a species uses more than one type of habitat or needs lots of space to roam it is important that they can safely travel from one habitat to another. It is also important that the species' habitats are connected – this is called **connectivity**.

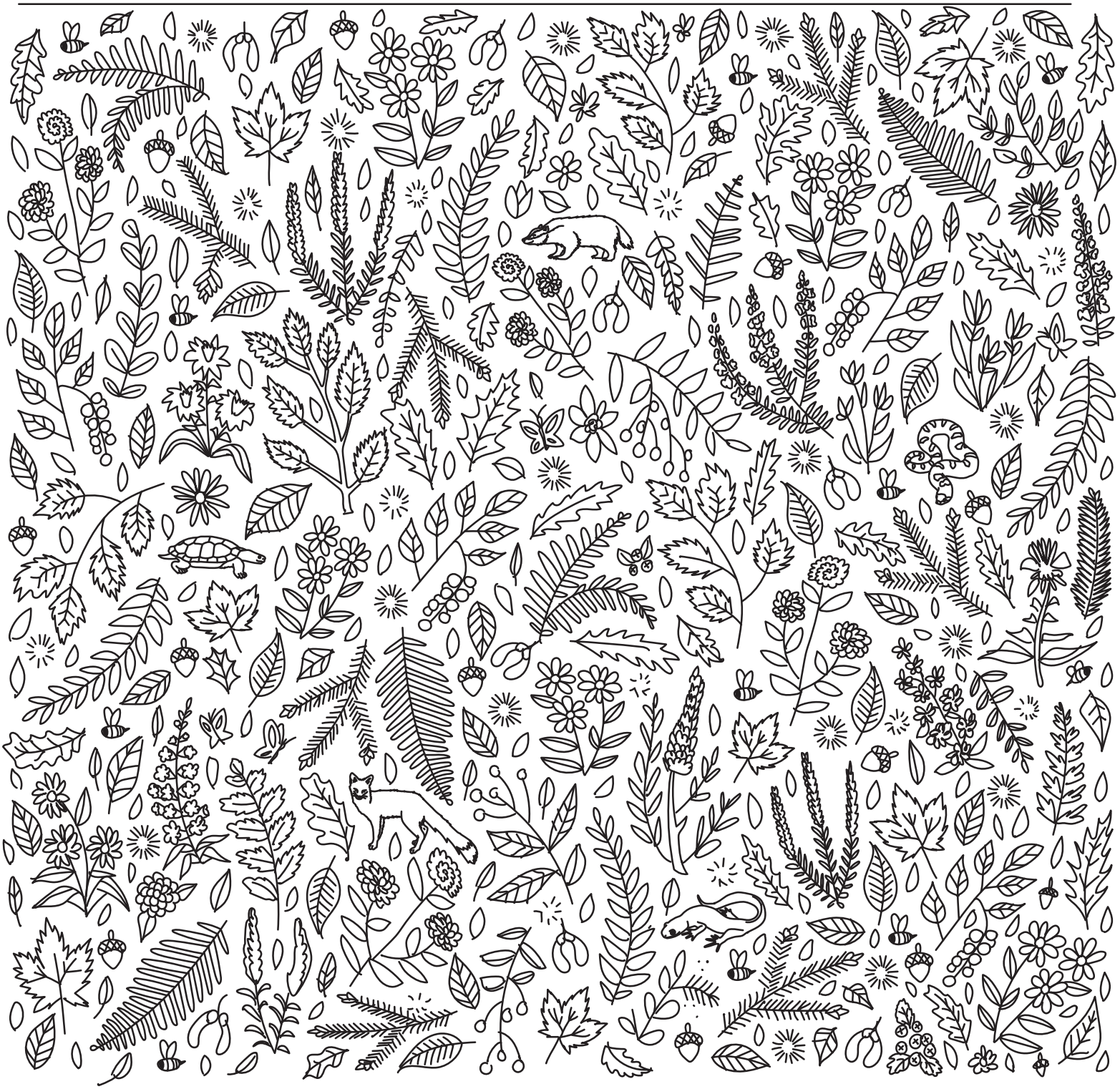
You could think of habitat connections as 'wildlife roads'. But instead of pavement or gravel, wildlife prefer roads with lots of trees, shrubs and other plants (that give them good places to hide!). They also like roads that they don't have to share with cars. Some animals that rely on large, connected habitats are; the **grey fox, American badger, wood turtle, eastern hog-nosed snake** and some **salamanders**.

Can you find the species that rely on connectivity?









HABITAT STEWARDSHIP on YOUR FARM pledge

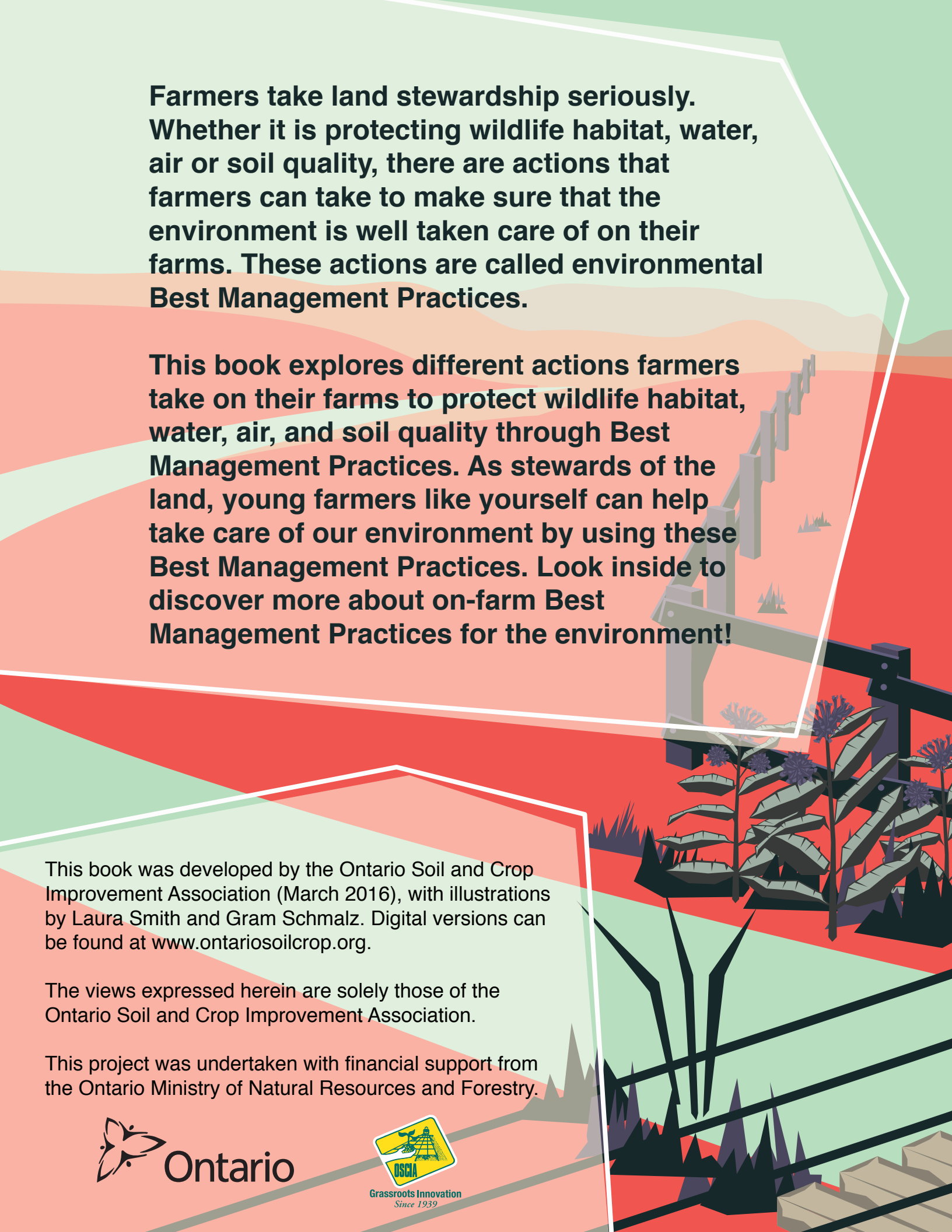
I pledge to teach a friend
about an on-farm environmental
Best Management Practice
that I learned about in
this activity book.

Name: _____

Date: _____

Farmers take land stewardship seriously. Whether it is protecting wildlife habitat, water, air or soil quality, there are actions that farmers can take to make sure that the environment is well taken care of on their farms. These actions are called environmental Best Management Practices.

This book explores different actions farmers take on their farms to protect wildlife habitat, water, air, and soil quality through Best Management Practices. As stewards of the land, young farmers like yourself can help take care of our environment by using these Best Management Practices. Look inside to discover more about on-farm Best Management Practices for the environment!



This book was developed by the Ontario Soil and Crop Improvement Association (March 2016), with illustrations by Laura Smith and Gram Schmalz. Digital versions can be found at www.ontariosoilcrop.org.

The views expressed herein are solely those of the Ontario Soil and Crop Improvement Association.

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Ontario

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