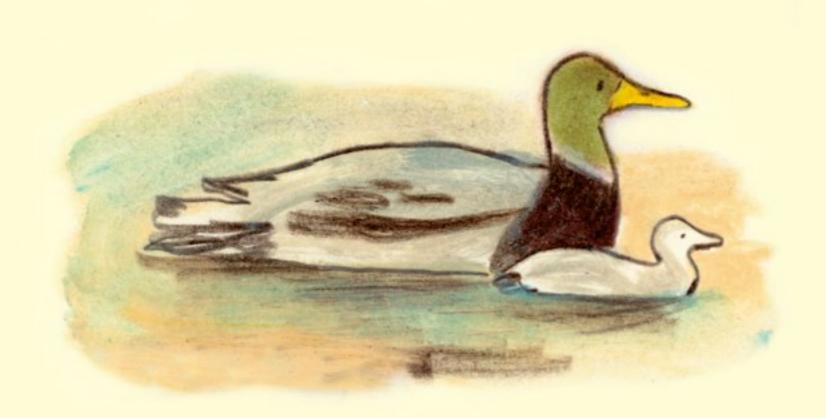


# Time Runs Like A River



#### For Harriet



The Royal Botanic Gardens, Kew carries out vital research in the fight against biodiversity loss to save all life on Earth. Situated next to the River Thames, Kew Gardens in London is home to over 17,500 plant species, as well as many species of birds and insects. Plants and animals also thrive in the ancient and beautiful landscapes of Wakehurst, Kew's wild botanic garden in Sussex, within woodlands, meadows and wetlands.

#### BIG PICTURE PRESS

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## Time Runs Like A River

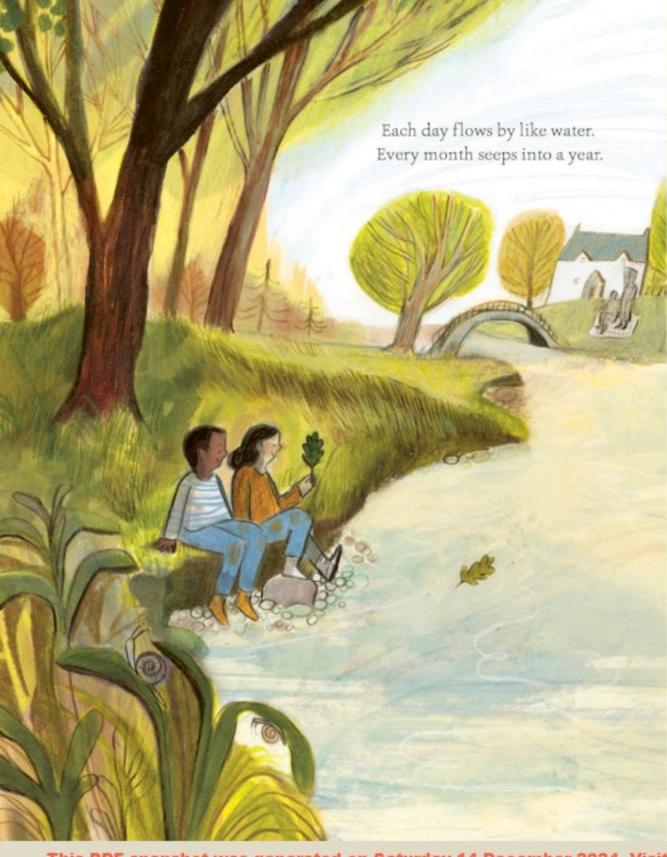


Emma Carlisle





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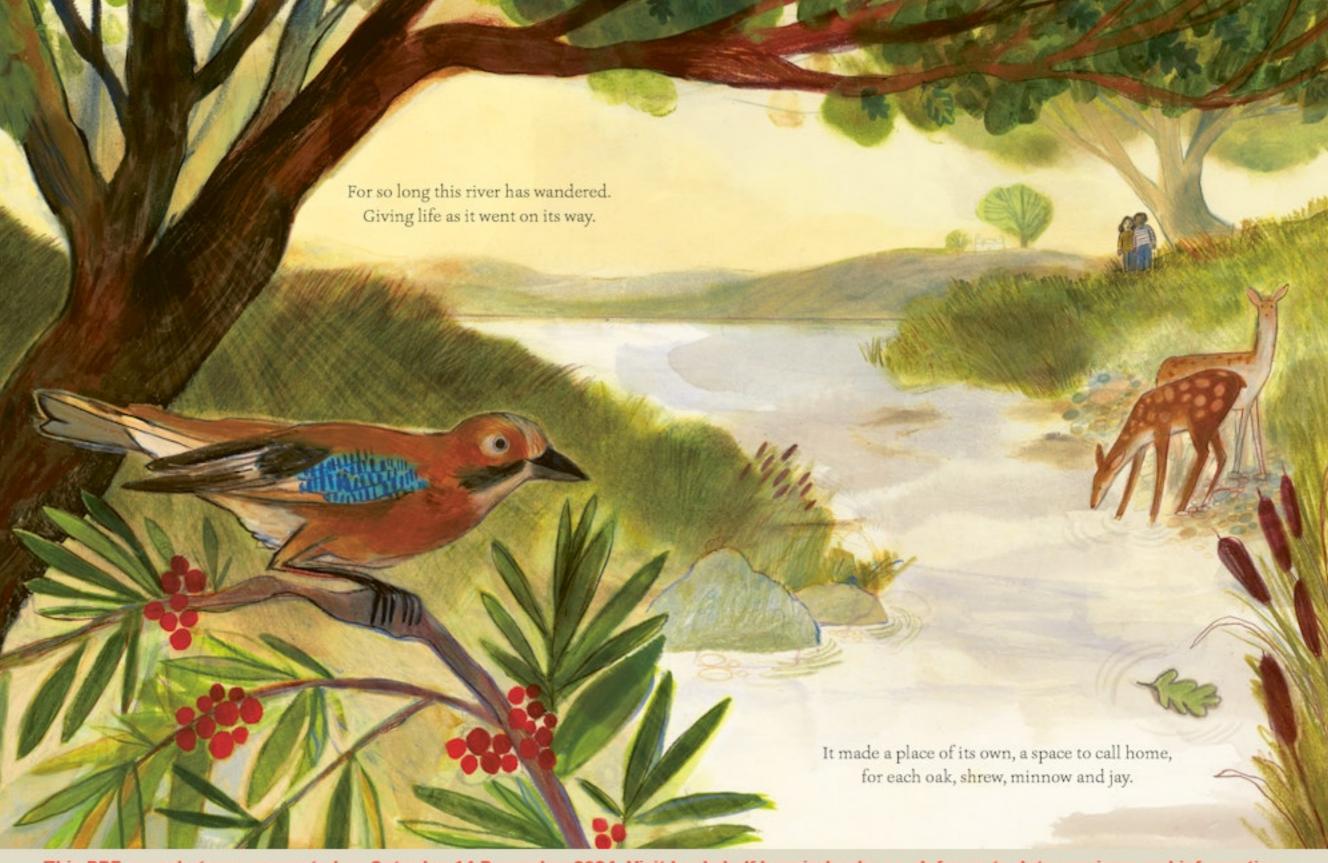
Rushing and flowing, moving and growing...



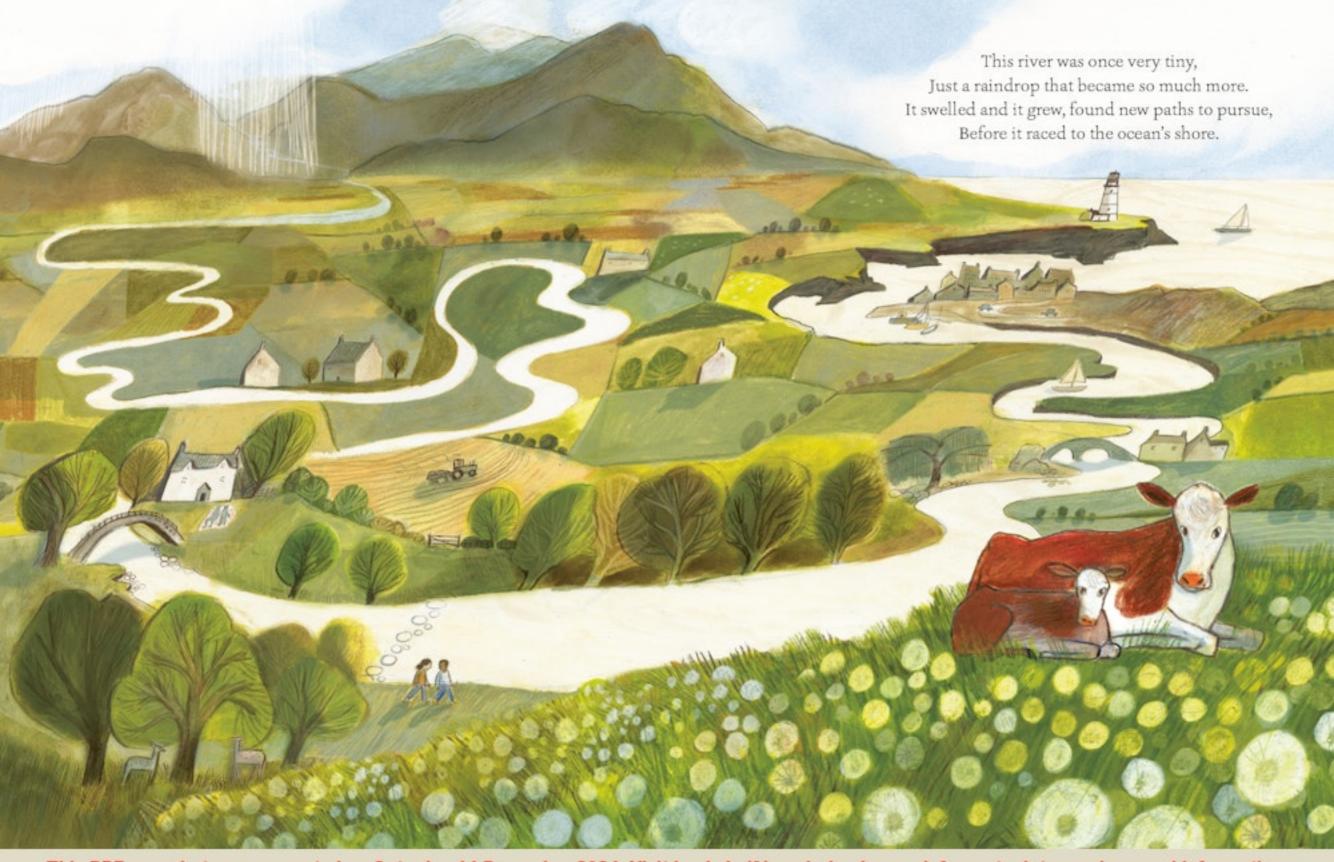
...until it's farther away, than near.



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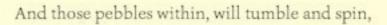


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This willow did not always stand here,





Though its roots burrow deep in the land.

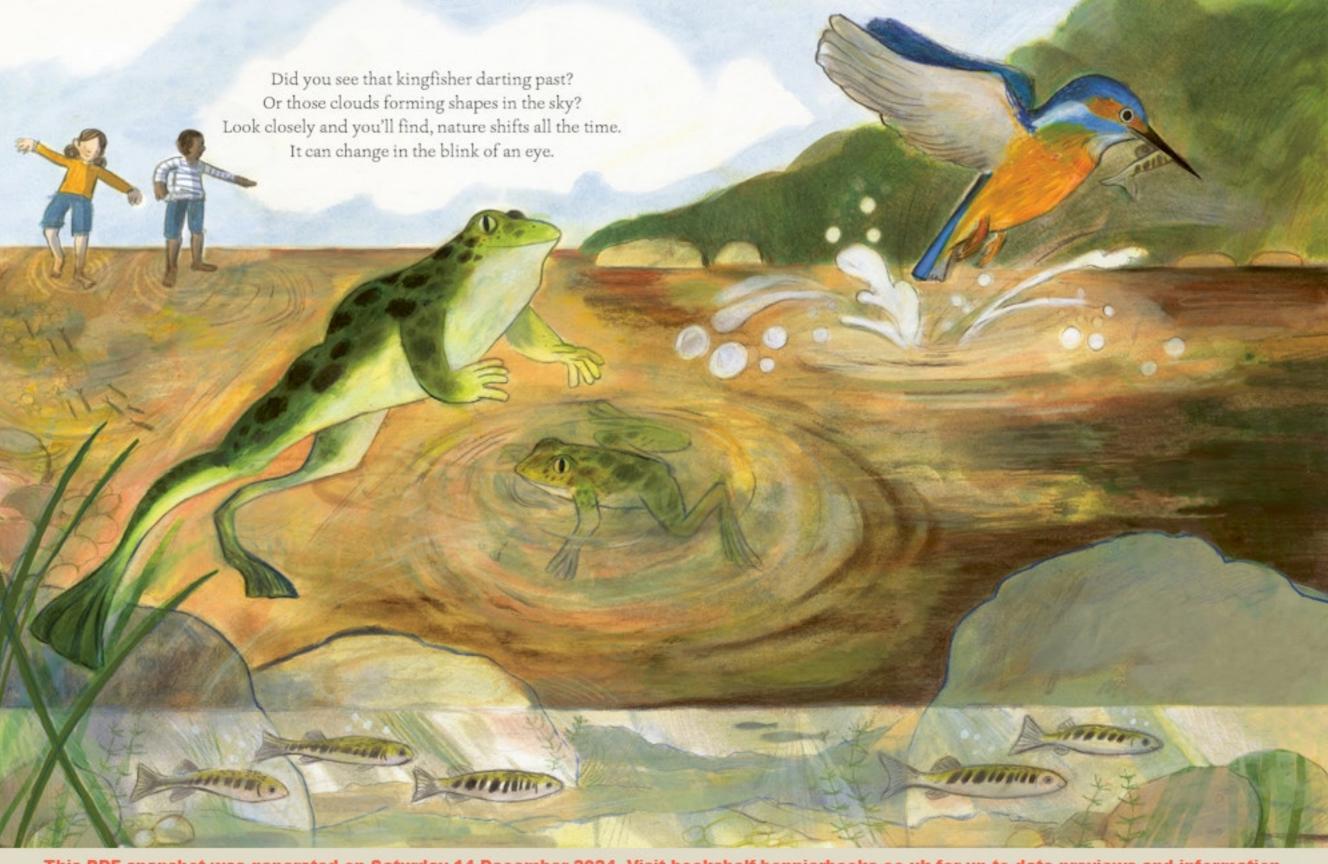




Until they're no more than fine grains of sand.



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Think of one second,







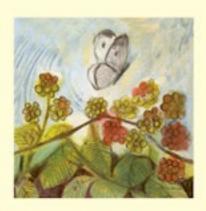
the smallest of time.







It might feel quick to you and me.



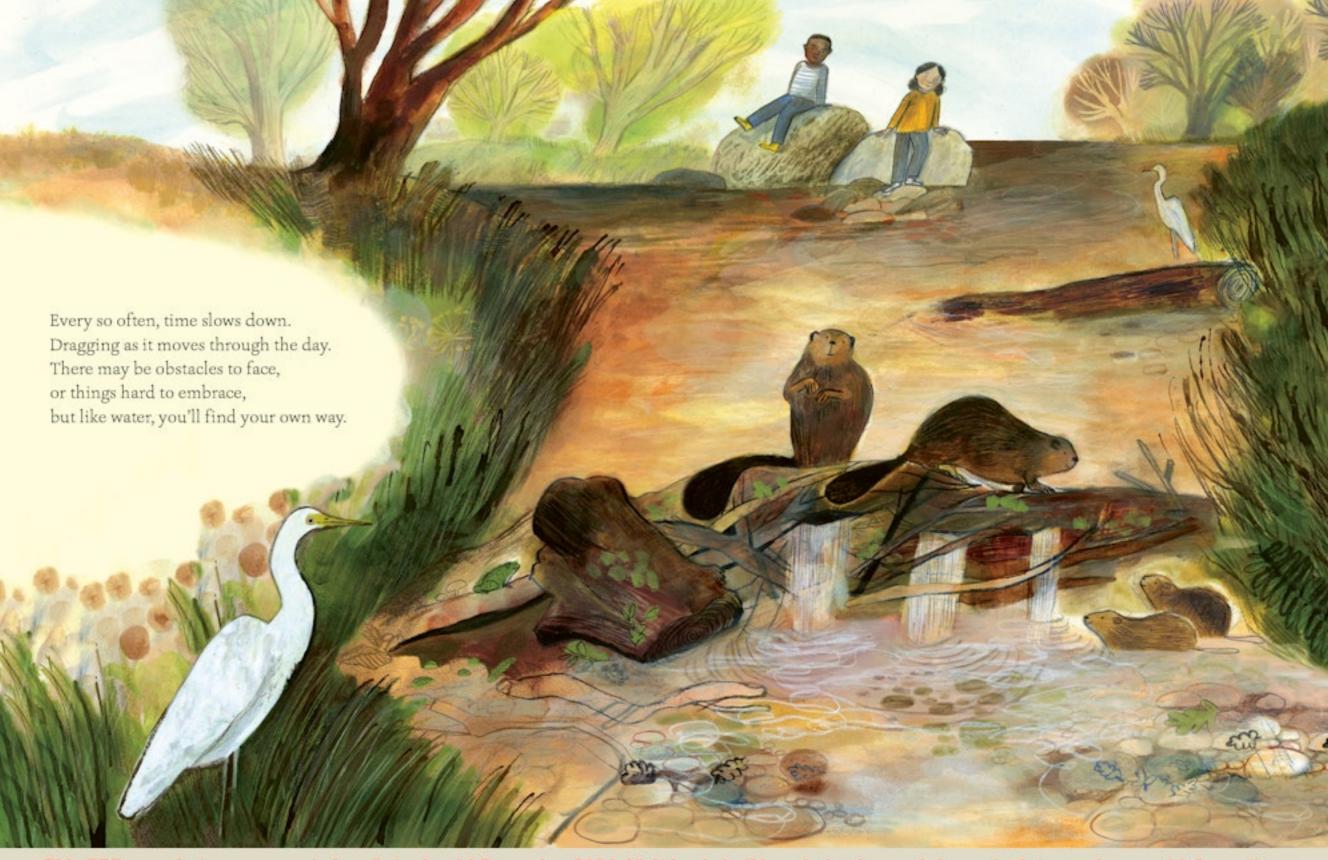




Yet to a mayfly whose whole life is just one single day,



How precious each second must be.



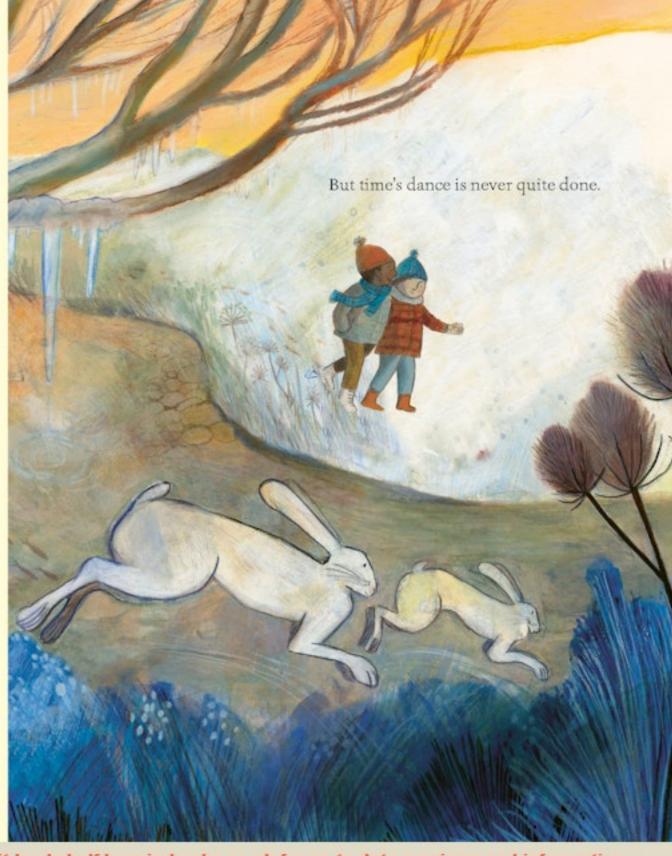
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Just like the river, time ticks along. Through winter's chill, and summer's great sun.



Flowers bloom and leaves quake, ice crackles, shards break,





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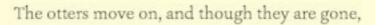


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Life is a journey, and on it goes.





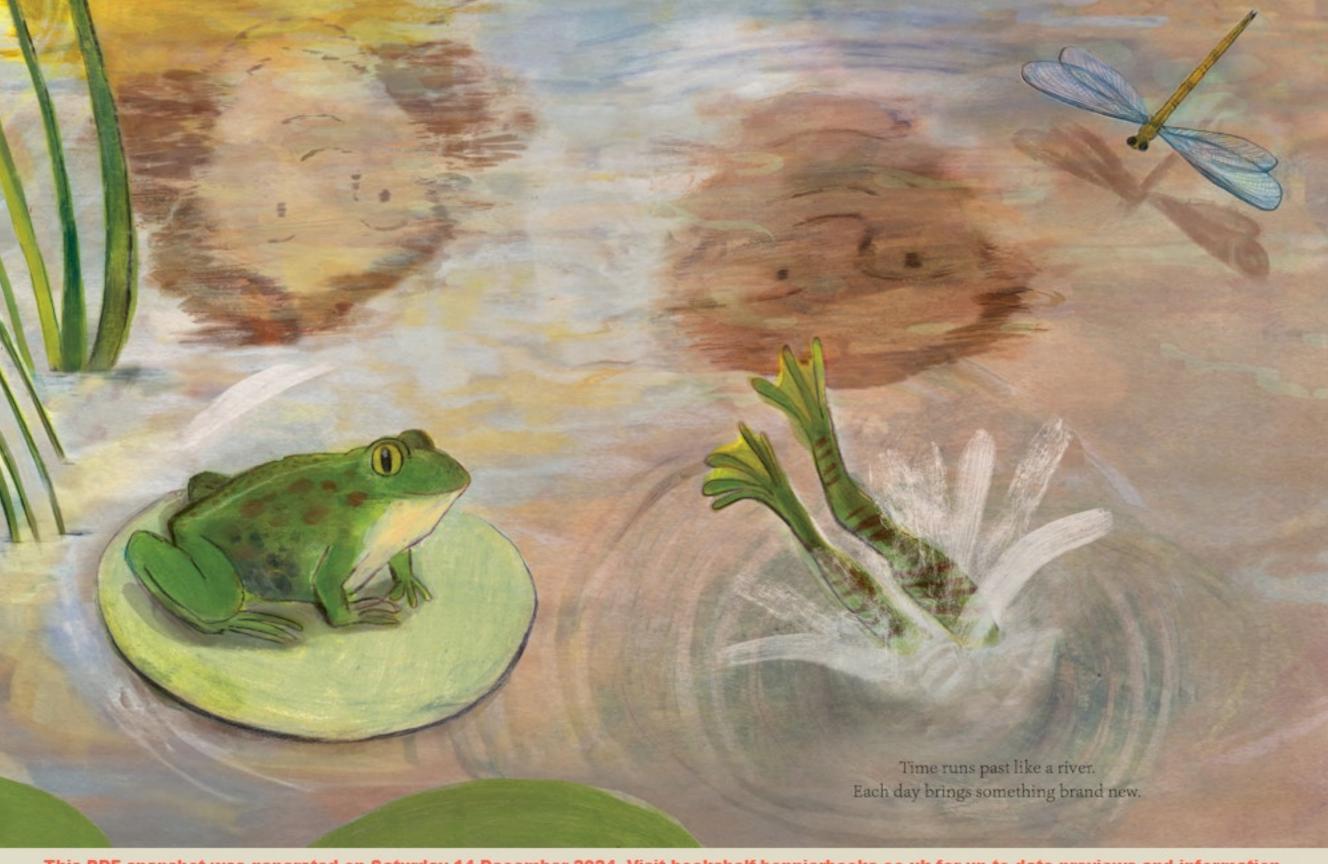
The birds return each year to their nests.



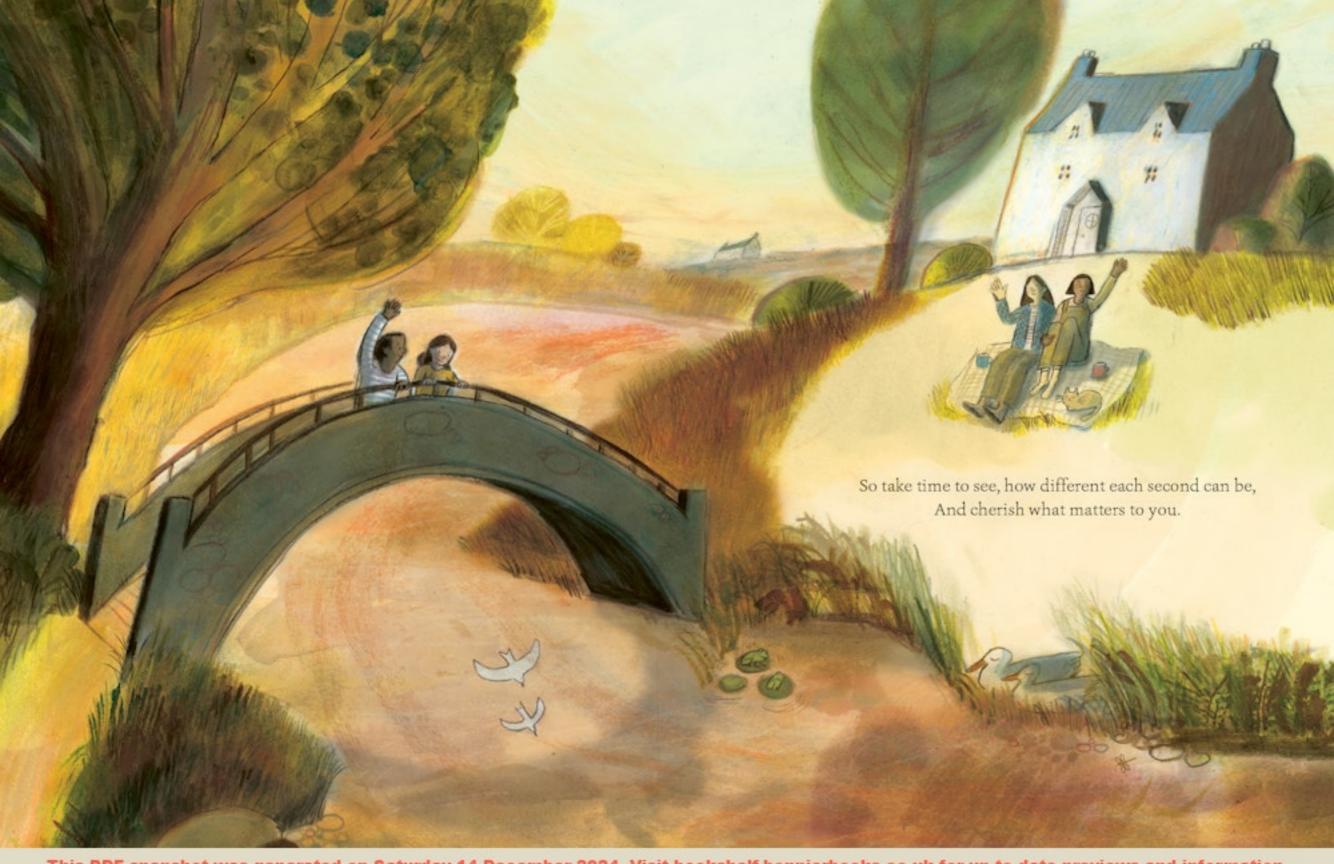
A new family will come here to rest.



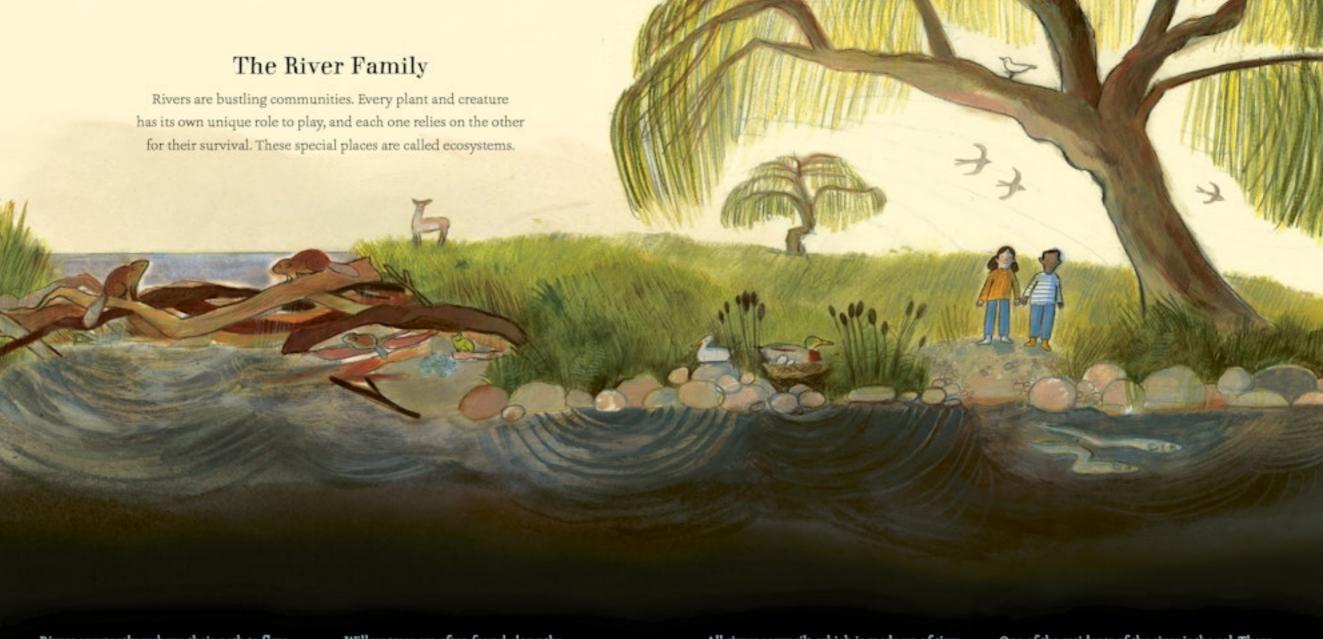
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Rivers constantly reshape their path to flow around obstacles and find new routes. One such obstacle is a dam. Beavers make dams across rivers by felling trees and building barriers with sticks, mud and stones. This slows the flow of water, but creates safe places for other animals, like frogs, to lay their eggs. It also keeps the river healthy by storing water, even when it's very dry. Willow trees are often found along the riverbanks. Their roots help to hold the soil together, preventing erosion and keeping the riverbanks safe for smaller creatures. But that's not all – when a willow branch snaps off, it is carried down the river and regrows nearby. A new willow tree will appear downstream, further helping to protect the ecosystem.

All rivers carry silt, which is made up of tiny rock and mineral particles. This might not sound very exciting, but silt is like a special dust that helps to create new life. As the river flows, it deposits silt along its path. This silt acts like a fertiliser for plants, providing the extra nutrients they need to grow. Healthy plants offer food and shelter for fish and insects.

One of the residents of the river is the eel. These slippery creatures start their lives in the ocean, then travel thousands of kilometres to freshwater rivers, where they mature before returning to the ocean as adults. Eels are sensitive to pollution, so if the eel population is doing well, it's a sign that the water is clean and healthy. Eels eat small creatures but are also eaten by bigger animals and fish.

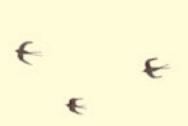
#### **Embracing Change**

Try these activities to learn more about how our world is constantly changing.



#### Leaf Art

The next time you visit the park or your garden, collect some leaves. Take a moment to admire their different shapes and colours. When you return home, use paper and glue to create beautiful pictures or patterns, or you could try making leaf rubbings. Notice how the leaves change colours with the seasons.



#### Nature Scavenger Hunt

Turn your next walk into a treasure hunt.

Make a list of things to find like a pine cone,
a feather, a twig or a smooth stone. As you
explore, think about which seasons these
objects might represent, and which animals
or plants they could belong to.





#### Planting Seeds

Fill a small pot with some soil, and then plant some sunflowers, beans or tomatoes. With a little water, sunlight, and plenty of care and attention, watch as your little seeds grows into big, strong plants, ever so gradually, one step at a time.



Seasonal Journal

Use a journal to draw or write about

what you observe outside as the seasons change. How does the weather change? How does the behaviour of plants and animals change? How do you change?

#### Rock Collecting

Did you know rocks are formed over an incredibly long time? Start collecting rocks and pebbles that catch your eye. Their different sizes, shapes and textures can give you clues as to what kinds of processes they might have gone through before you picked them up.

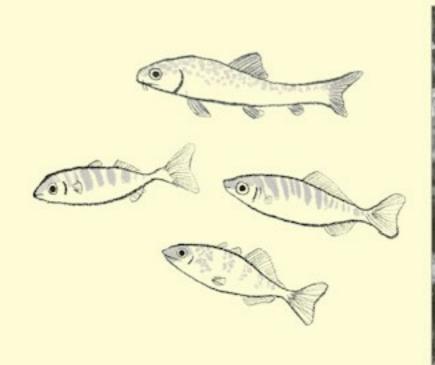


#### Bird Watching

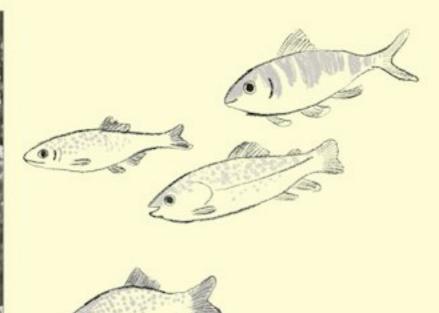
Hang a bird feeder in your garden or a nearby park. Watch how different species of bird come and go throughout the seasons. How many birds come to visit? Which ones disappear when the weather turns colder? Which ones arrive in the spring?



### A Note from Emma Carlisle







This project began as a book about time, but the more I researched and drew in my sketchbook, the more I became interested in how we see time - for example, how the seasons change throughout the year or how our hair grows longer every month.

I am lucky to live in Devon, which has so many beautiful rivers to visit. While working on this book, I spent an afternoon sitting on the banks of the River Dart, drawing and watching the pebbles which looked almost golden as they sparkled in the water. During a walk along the River Lyd, I noticed the wagtails which swooped over the river surface and fish that settled into sheltered spots on the riverbed where the current was slower.

I even walked part of the River Otter on the lookout for beavers.

Rivers are incredibly special, and each one is unique; some might move fast and babble over rocks and boulders, while others might meander slowly past - the perfect place for a summer swim. Yet, although they're all different, rivers need our help to keep them clean and to continue providing amazing ecosystems for the plants and wildlife around us.

Everything changes in this big, beautiful world of ours. I hope this book encourages you to start to notice what changes around you and how you grow and change too.

Emma