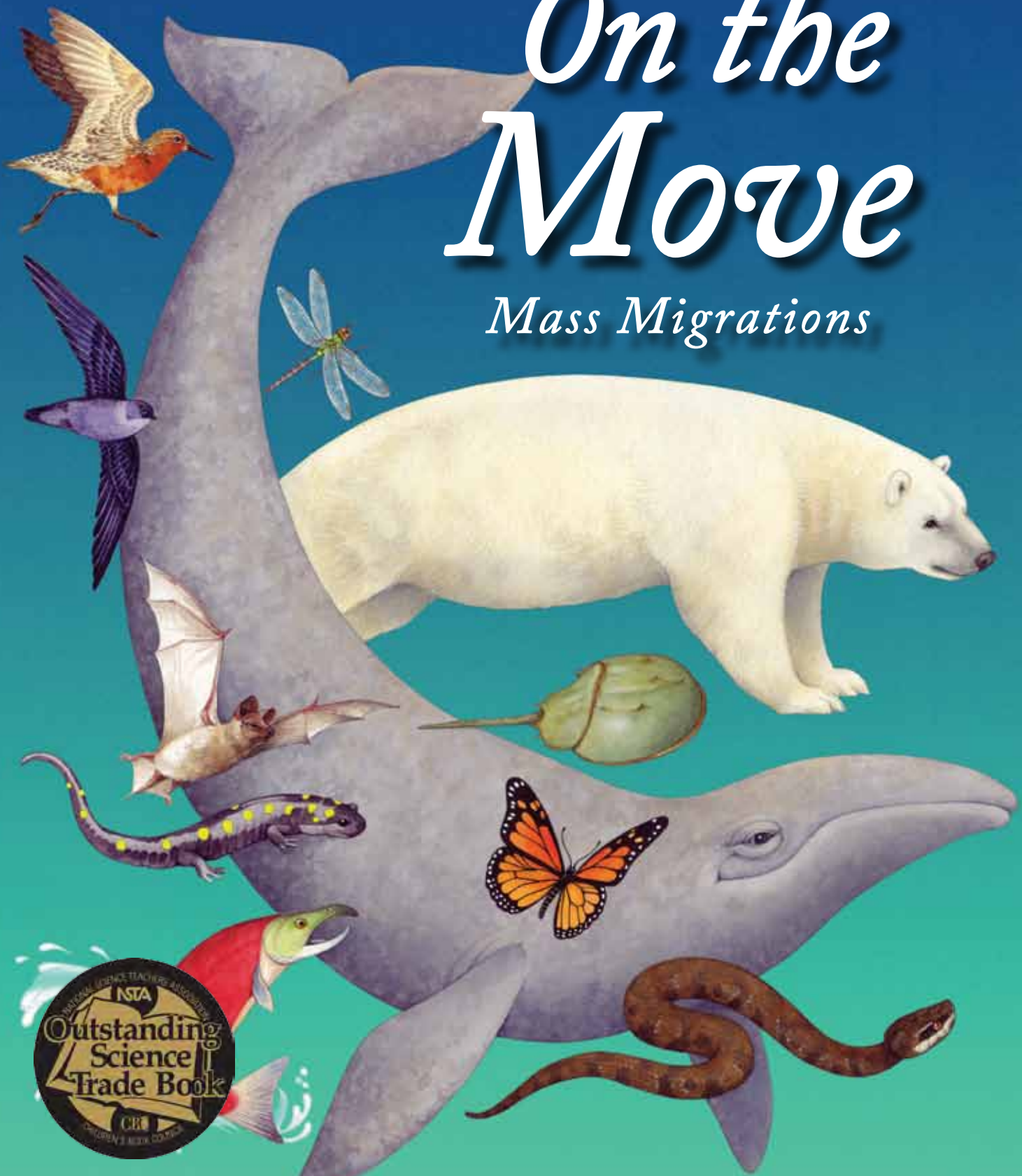


On the Move

Mass Migrations



by Scotti Cohn

illustrated by Susan Detwiler

On the Move

Mass Migrations

Imagine seeing hundreds of the same type of animal gathered at the same place at the same time! Right here in North America, many animals gather in huge numbers at predictable times and locations. Not all migrations are tied to seasonal food changes—some are tied to life cycles. Certain birds, reptiles, mammals, amphibians, fish, and even insects migrate during spring, summer, fall, or winter. Travel along with them as you learn about what puts these animals *On the Move*.

Animals in the book include salamanders, sandhill cranes, horseshoe crabs, red knots, caribou, chimney swifts, Brazilian free-tailed bats, monarch butterflies, polar bears, snakes, northern elephant seals, salmon, bald eagles, and gray whales.

It's so much more than a picture book . . . this book is specifically designed to be both a fun-to-read story and a launch pad for discussions and learning. Whether read at home or in a classroom, we encourage adults to do the activities with the young children in their lives. Free online resources and support at ArbordalePublishing.com include:

- For Creative Minds as seen in the book (in English & Spanish):
 - Animal Migrations: What, When, Where, & Why?
- Teaching Activities (to do at home or school):
 - Reading Questions
 - Math
 - Language Arts
 - Geography
 - Science
 - Coloring Pages
- Interactive Quizzes: Reading Comprehension, For Creative Minds, and Math Word Problems
- English and Spanish Audiobooks
- Related Websites
- Aligned to State and Core Standards
- Accelerated Reader and Reading Counts! Quizzes
- Lexile and Fountas & Pinnell Reading Levels

eBooks with Auto-Flip, Auto-Read, and selectable English and Spanish text and audio available for purchase online.

Thanks to the following animal experts for verifying the accuracy of the information in this book: Pam Cox, Joan Crowder, Cathy Curby, Chad Deaton, Charles Gibilisco, Georgean and Paul Kyle, Keanna Leonard, Kaye London, Ted Martens, Celeste Mazzacano, Joe Meehan, Stewart Michels, Ronald L. Ohrel Jr., Benjamin Pister, Jason Richards, Steve Selden, and Patti Smith

Award-winning author **Scotti Cohn** has had a love for poetry and fiction writing since childhood. Scotti has written *On the Move*, *Big Cat*, *Little Kitty* and *One Wolf Howls* for Arbordale, as well as eight nonfiction books and numerous short stories and poems. Scotti's two grown children have done their own moving on. She and her husband live in upstate South Carolina with five little kitties. Visit her website at scotticohn.com.

Susan Detwiler is the illustrator of several books for children including *On the Move*, *Big Cat*, *Little Kitty*, and the award-winning titles *Pandas' Earthquake Escape* and *One Wolf Howls*. She is a member of the Society of Children's Book Writers & Illustrators and her illustrations have appeared in the children's magazines, *Highlights For Children* and *Ladybug*. Susan was educated at the Maryland Institute College of Art and lives with her artist husband and their two sons in Baltimore. Visit her website at susandetwiler.com.



Scotti Cohn



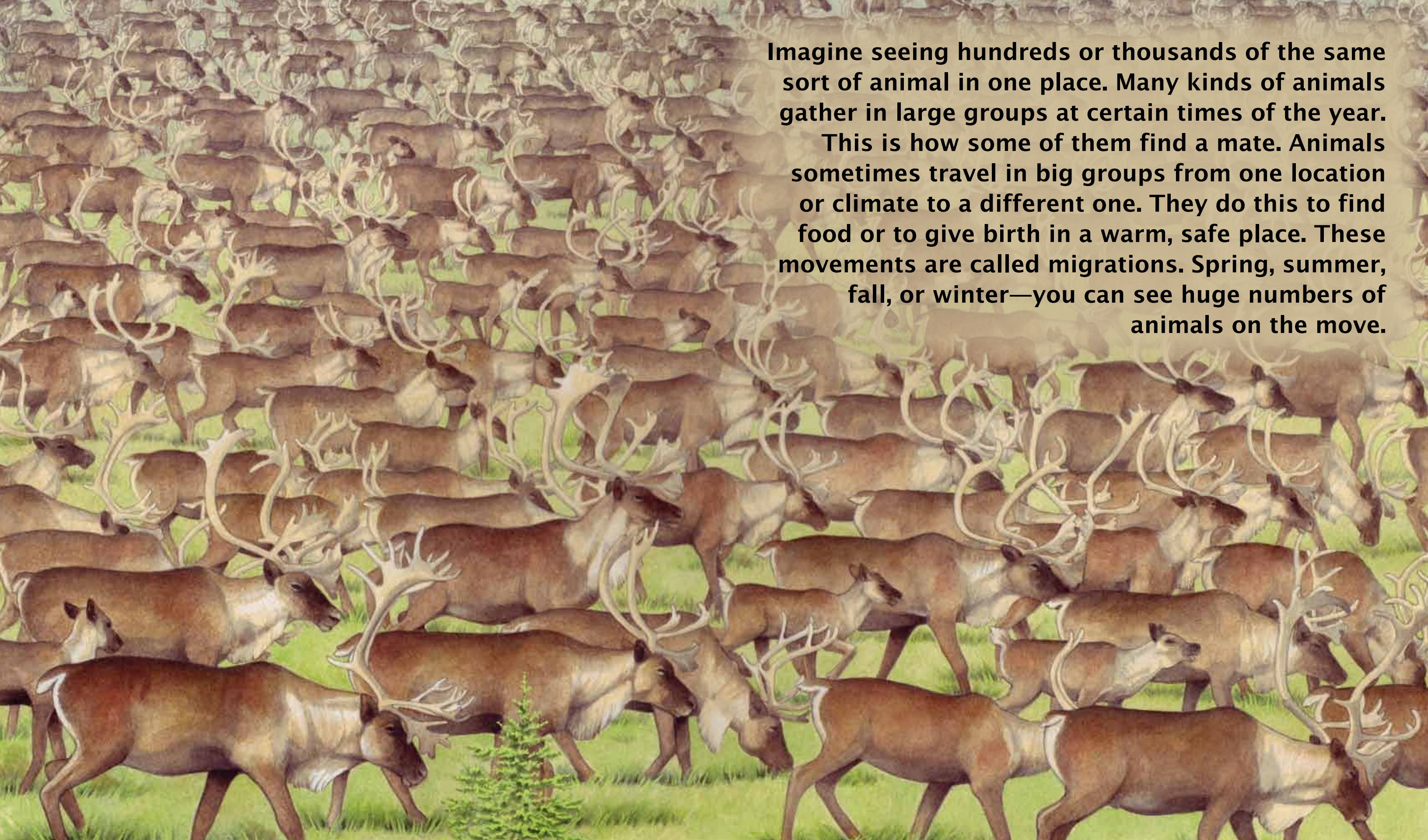
Susan Detwiler

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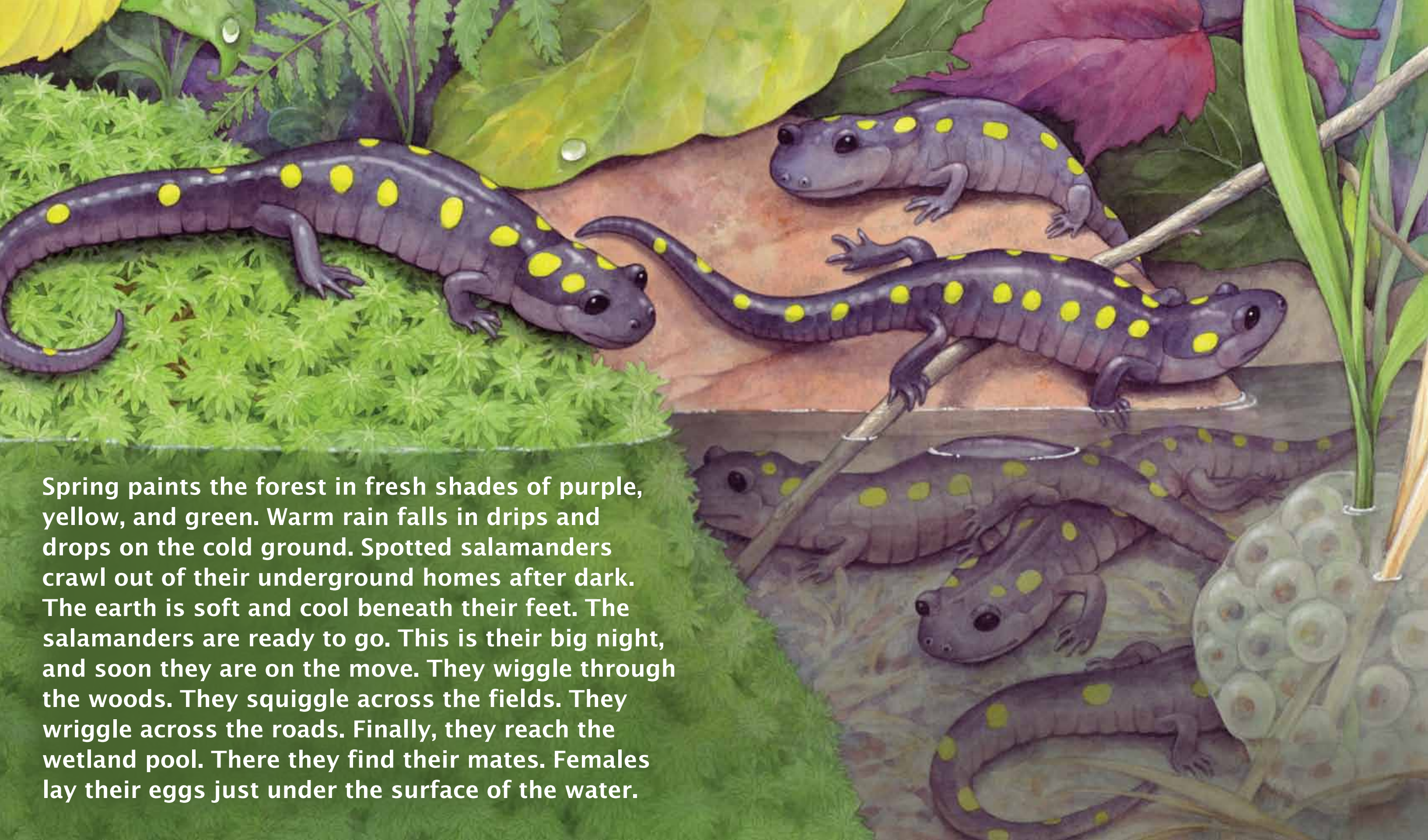


by *Scotti Cohn*
illustrated by *Susan Detwiler*

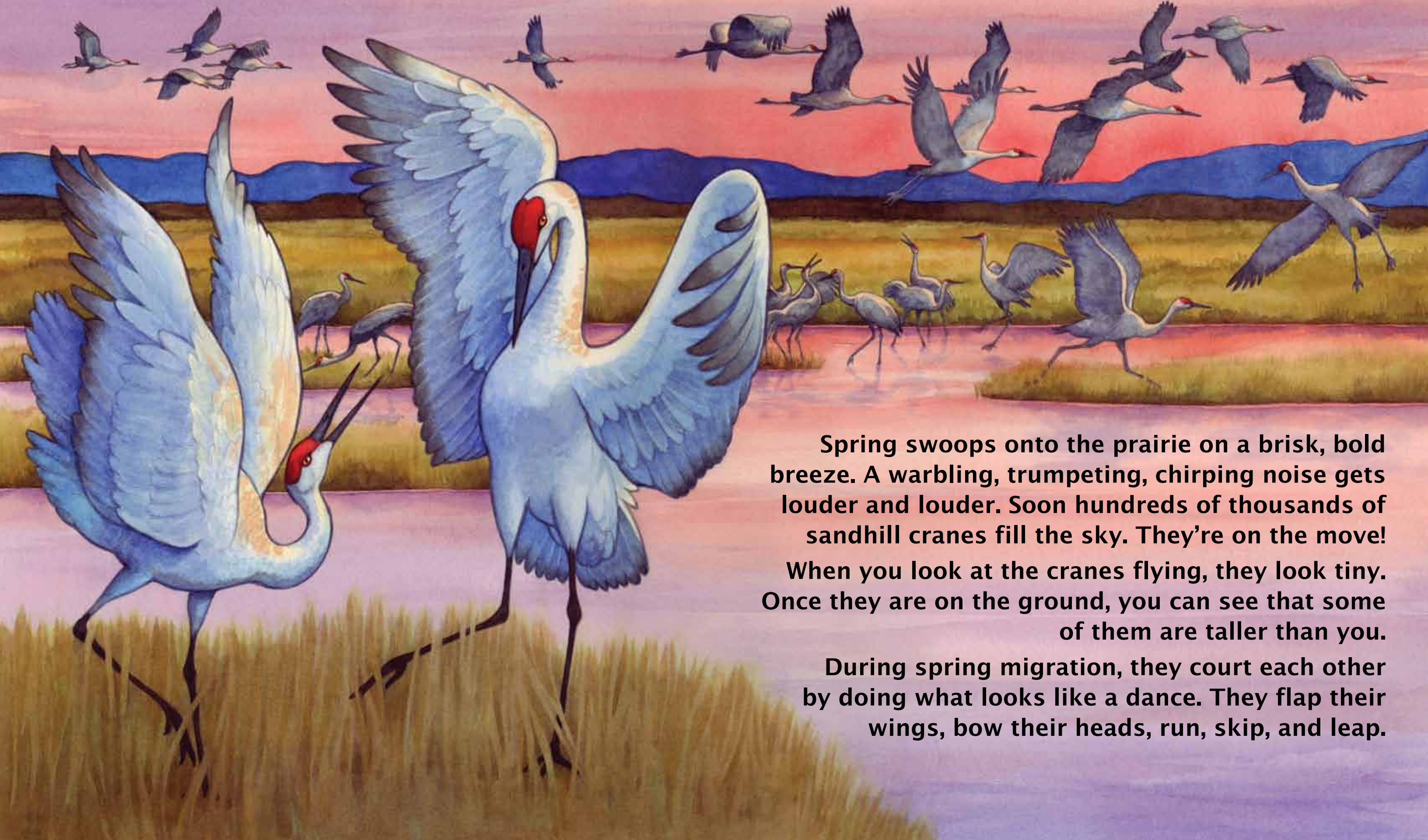


Imagine seeing hundreds or thousands of the same sort of animal in one place. Many kinds of animals gather in large groups at certain times of the year.

This is how some of them find a mate. Animals sometimes travel in big groups from one location or climate to a different one. They do this to find food or to give birth in a warm, safe place. These movements are called migrations. Spring, summer, fall, or winter—you can see huge numbers of animals on the move.



Spring paints the forest in fresh shades of purple, yellow, and green. Warm rain falls in drips and drops on the cold ground. Spotted salamanders crawl out of their underground homes after dark. The earth is soft and cool beneath their feet. The salamanders are ready to go. This is their big night, and soon they are on the move. They wiggle through the woods. They squiggle across the fields. They wriggle across the roads. Finally, they reach the wetland pool. There they find their mates. Females lay their eggs just under the surface of the water.



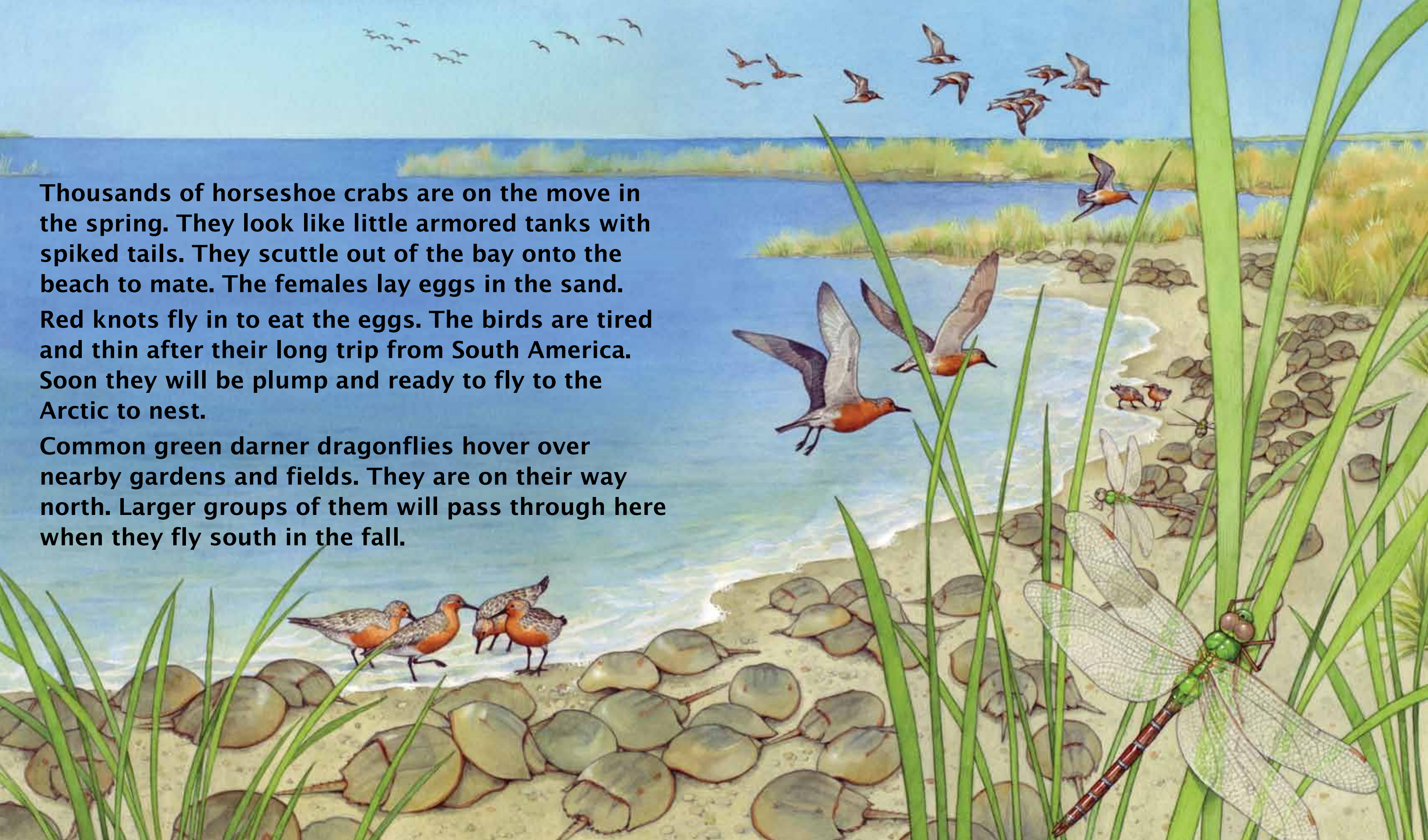
Spring swoops onto the prairie on a brisk, bold breeze. A warbling, trumpeting, chirping noise gets louder and louder. Soon hundreds of thousands of sandhill cranes fill the sky. They're on the move!

When you look at the cranes flying, they look tiny. Once they are on the ground, you can see that some of them are taller than you.

During spring migration, they court each other by doing what looks like a dance. They flap their wings, bow their heads, run, skip, and leap.

Thousands of horseshoe crabs are on the move in the spring. They look like little armored tanks with spiked tails. They scuttle out of the bay onto the beach to mate. The females lay eggs in the sand. Red knots fly in to eat the eggs. The birds are tired and thin after their long trip from South America. Soon they will be plump and ready to fly to the Arctic to nest.


Common green darner dragonflies hover over nearby gardens and fields. They are on their way north. Larger groups of them will pass through here when they fly south in the fall.



For Creative Minds

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Animal Migrations: What, When, Where, and Why?



Most people think about birds migrating in the spring and fall because huge flocks of birds are so visible in many areas. But birds are not the only animals that migrate. Some mammals, reptiles, fish, birds, amphibians, and even some invertebrates migrate. Many mammals and birds learn the migration route from their parents while others travel only by instinct. Scientists don't understand how animals know when and where to travel.

Some animals follow food sources or protection from seasonal weather. They often travel the same routes year after year and may even return to the same tree or nesting area as their parents and grandparents before them.

Some animals migrate as part of their life cycles. Animals that live alone most of the time (solitary) will often gather in large numbers at predictable places at predictable times of the year in order to find mates. Other animals travel to specific locations to lay eggs or to give birth and raise young before returning to their "normal" territory.

Animals may migrate year after year, or once in their lifetime.

Migrations can be long distances (for example, from tropical areas around the equator to the poles) or just a few hundred miles. Some might only travel up or down a mountain.

All of the animals mentioned in this book gather in predictable locations at predictable times of the year—right here in North America. You can go to these locations to see the animals.

Use the information in the next few pages to answer these questions:

1. Which animal gathering is closest to where you live?
2. What month or season would you best be able to see the animals?
3. How many animals could you see in one day?
4. Which animals are **mammals**, **reptiles**, **fish**, **birds**, **amphibians**, or **invertebrates**?



Brazilian free-tailed bats fly north to Texas, Arizona, and New Mexico in the spring. Females give birth to pups in June. The pups start to fly in August. Look for thousands of bats in August and September as these **mammals** leave their roosts at dusk. When the weather cools, the bats fly south to where there are still plenty of insects to eat.



Between 500 and 1,000 polar bears gather near Churchill, Manitoba, Canada each fall. They wait for the Hudson Bay to ice over. Once the bay freezes, these **mammals** scatter on the ice to hunt seals and whales through the winter. As the ice thaws in the spring, the bears ride the ice floes back to land. They'll spend the summer looking for whatever food they can find—even plants.



On the first warm, rainy night of spring in New England, salamanders travel to small ponds to breed. Hundreds of these **amphibians** gather to find mates. They will cross roads or crawl over anything in their way to get to the same ponds where they may have been born.

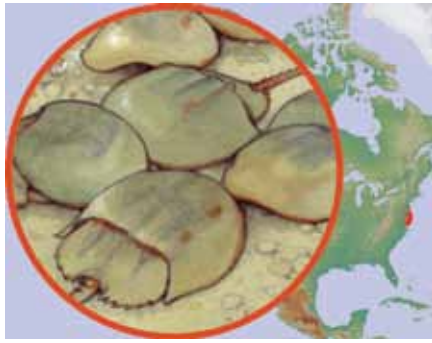


Salmon are born in freshwater but spend much of their lives in the ocean. As adults, these **fish** will return to the freshwater in which they were born. Depending on the location and the salmon species, you might see hundreds or hundreds of thousands of salmon swimming up-current in the summer, fall, or winter so they can breed and lay eggs. Salmon live in both the Pacific and Atlantic Oceans and now some even live in the Great Lakes.



Not all bald eagles migrate. If these **birds** live in areas where the water freezes during the winter, they will migrate to follow food sources. You might see a few or a few hundred eagles hunting salmon as the fish swim toward their breeding grounds. Fish trapped by the locks or dams also make for easy hunting. You can often find eagles around locks and dams on some large rivers.





Once a year, horseshoe crabs gather on beaches to breed. The females lay their eggs in the sand near the high tide line. Around the new and full moons in late May and early June, you can see millions of these **invertebrates** on the beaches around the Delaware Bay. You can also see them on other beaches up and down the Atlantic coast.



Monarch butterflies migrate to warm weather for the winter. When they wake in the spring, they fly north to find the food they need to eat and plants they need to lay eggs. Look for these insects (**invertebrates**) in Mexico, coastal California, Texas, and Florida in the winter.



Adult red knots fly between South America and the Arctic every year. These tiny **birds** arrive on the shores of the Delaware Bay, just as the horseshoe crabs are laying eggs in the spring. They eat their fill of horseshoe crab eggs. After a short rest, they fly the rest of the way to their summer nesting grounds in the Arctic.



Gray whales leave their summer feeding grounds in Alaska as the weather starts to turn cold. They swim south towards warmer waters to breed and give birth. Because these huge **mammals** swim close to shore, you can sometimes see them from land on their swim south in the fall or back north in the spring. Look for them in their winter birthing and breeding grounds around Baja California and the Sea of Cortez.



Chimney swifts lay eggs and raise young in eastern North America in the summer. Come fall, these **birds** gather by the thousands, getting ready to migrate. Look for the flocks around chimneys and other tall structures. They'll fly to the rainforests of South America for the winter. Not only are the rainforests warm, but there's lots of food there.

Snakes need to protect themselves from cold weather. At the Shawnee National Forest in southern Illinois, many snakes migrate short distances to winter dens in the cracks and crevices of limestone bluffs. The **reptiles** gather into large balls for warmth and hibernate through the winter. Come spring and fall, you might spot up to 30 snakes in an afternoon crossing the road to or from their winter dens.



Hundreds of northern elephant seals gather twice a year at rookeries along the Pacific coastline from Alaska south to Baja California. In the late spring and early summer, these **mammals** come ashore to molt. They gather in winter to give birth and find a mate. They don't eat while on land but hunt fish once they are back in the water.



Caribou herds leave the forests in the spring and migrate to tundra meadows in Alaska and Northern Canada. Caribou young are born as soon as the snow melts. There's lots of food in the meadows and not too many predators. This gives the young **mammals** a chance to grow big and strong. They spend the winter in the forest where it's easier for them to find food.



Hundreds of thousands of sandhill cranes gather at the Platte River in Nebraska in the spring. They eat and rest for up to a month before separating and flying further north to their summer nesting grounds. As cold weather approaches in the fall, the **birds** fly south looking for a ready supply of insects and seeds to eat.

1, 2, & 3 Answers will vary. For links and information on specific locations to see animals, go to the related websites on the book's homepage at ArbordalePublishing.com.
4: **Mammals:** Mexican free-tailed bats, polar bears, elephant seals, gray whales, caribou.
Reptiles: snakes. **Fish:** salmon. **Birds:** eagles, chimney swifts, sandhill cranes. **Amphibians:** salamanders. **Invertebrates:** monarch butterflies, horseshoe crabs.

For Laiken, who is always on the move!—SC

To Jon with gratitude for his support and encouragement—SD

Thanks to the following animal experts for verifying the accuracy of the information in this book:

- Brazilian free-tailed bats: Pam Cox, Supervisory Park Ranger, Division of Interpretation, Carlsbad Caverns National Park
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- chimney swifts: Georgean and Paul Kyle, Project Directors, Driftwood Wildlife Association
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- gray whales: Jason Richards, Chief of Interpretation and Education; Kaye London, Associate Wildlife Biologist; and Benjamin Pister at Cabrillo National Monument
- green darner dragonfly: Celeste Mazzacano, Project Coordinator, Migratory Dragonfly Partnership
- horseshoe crabs and red knots: Ronald L. Ohrel Jr., Director, Marine Public Education Office, Delaware Sea Grant and Stewart Michels, Delaware Division of Fish and Wildlife
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