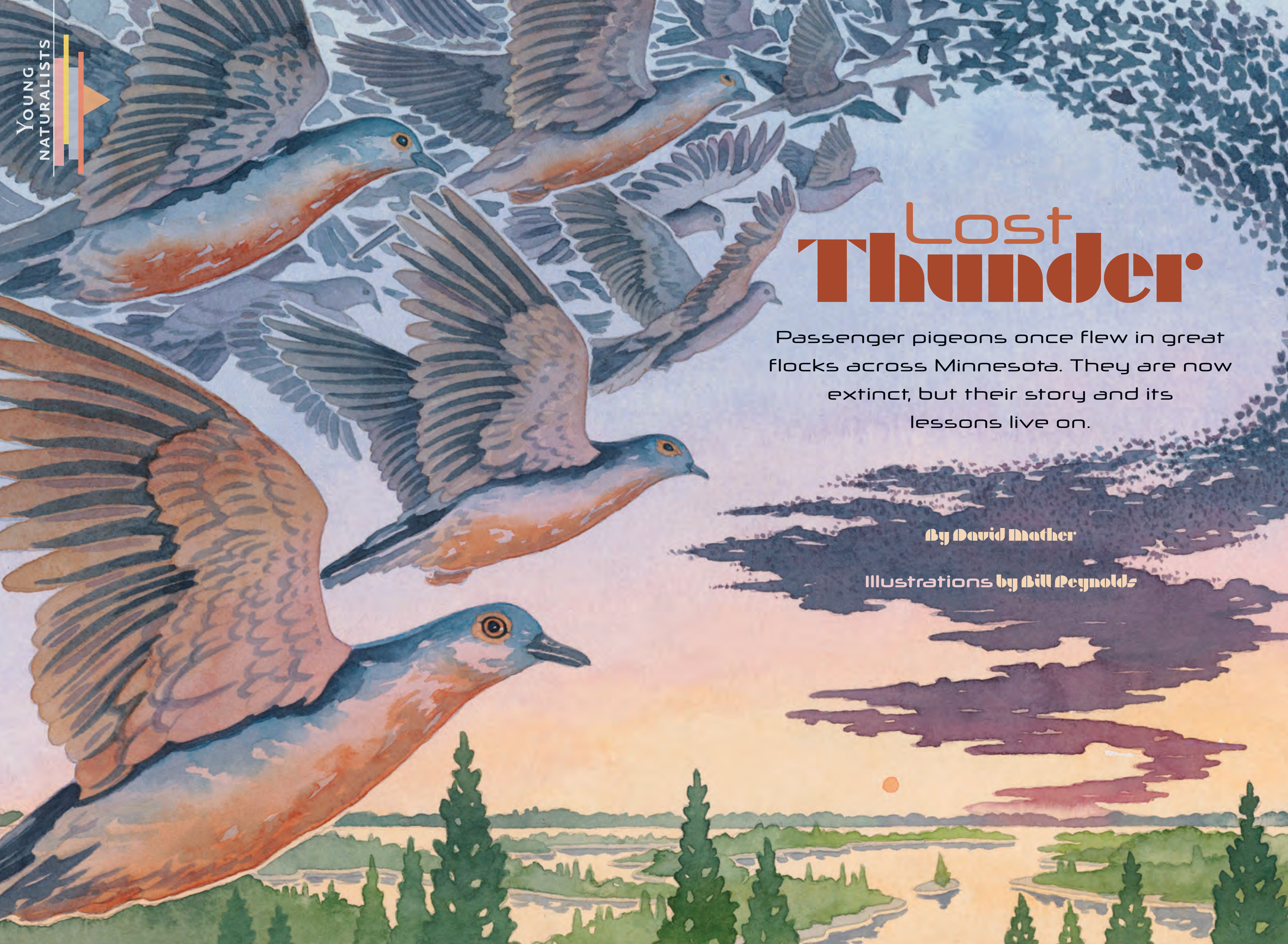

Lost Thunder

Passenger pigeons once flew in great flocks across Minnesota. They are now extinct, but their story and its lessons live on.

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Picture yourself: You are a bird. Not just any bird, but a passenger pigeon, flying high in an endless flock traveling across half the continent 200 years ago. You are one among thousands of millions, maybe even millions of millions. You've been flying, moving from place to place over great distances for practically your whole life. This leg of the flight has lasted most of a day so far. Your flock surrounds you so tightly that it's hard to see anything but birds in shades of blue and brown. You get glimpses of water, or sometimes trees far below. Now you swerve and dive, because that's what the rest of the flock is doing too. You all move together. You don't have to think about it because it just happens.

You're bigger than domestic pigeons, the ones that are so familiar in cities today. Those were brought to North America by European colonists centuries ago, but you've been here longer than people can remember, maybe a million years at least according to paleontologists who have found fossilized remains. Generations of your flocks shared the world with woolly mammoths long before bison herds, and later cattle, dotted the land.

Your tail is long. So are your wings, giving you strength for these epic flights. The "passenger" in your name is from the French word *passager* meaning "to pass fleetingly." This is a reference to your great migrations, and how French fur traders viewed them beginning in the 1500s. At that time, passenger pigeons lived and migrated in eastern North America, although smaller numbers of birds flew further westward still.

A Dramatic Loss. Today, we have to use our imaginations to picture passenger pigeons, because they are *extinct*—completely gone. And people are to blame.

The last passenger pigeon on earth died in a zoo in 1914. But the real damage started about 50 years before that, when hunters shot, netted, and in other ways killed unimaginable numbers of them to sell for food. Population numbers crashed, and the birds never recovered.

This loss changed Minnesota forever, in ways that we still do not fully understand today. Just like vast herds of bison were important for the prairie—trampling the soil, wallowing in mud, grazing on and in turn fertilizing the tall grass—passenger pigeons were a *keystone* species of the deciduous forest. Their seemingly endless flocks transformed the landscape, eating massive amounts of *mast* such as acorns, chestnuts, and beech nuts. The weight of so many roosting birds sometimes broke branches off trees, opening the forest floor to new plant growth that would be amply fertilized by the birds' poop, called *guano*. It's easy to see why many settlers from Europe on farms and in towns did not worry about their numbers, even as the birds became more and more rare.

We know a little bit about how passenger pigeons lived in Minnesota. The stories that follow are imagined but based on real events and archaeological finds.

Food from the Forest

Lake Lida, about 1,000 years ago.

"Ska! We need some more firewood. Will you help?" It's my mother's voice. She's making pottery. I can't see her from here down by the lakeshore. "Yes!" I call back to her. I'm ankle deep trying to catch a turtle. As I look away, I hear it plop off the log back into the water. I wade back onto the hill and start looking through alder and hazel brush, picking up sticks.

Climbing the hill with an armload, I pass under tall oak trees that are starting to drop their acorns. My sisters are laughing at something my mother is saying. Soon they come into view. They're tending a large fire, with their depleted wood pile nearby. The smoke rises straight up through the trees. Sparks pop from the fire as my mother smiles. "Thank you, my boy," she says.

The sound of a loud wind startles me as the sky darkens, causing me to drop the wood I've carried. I stumble over one of my mother's new pots, but thankfully it doesn't break. Others are partly made or ready to put in the fire to harden. My sister is pressing a notched mussel shell into the wet clay at the top of a pot she's making, and she jumps up at the loud noise. What sounded like wind is now drumming that seems to shake the forest. Thinking fast, my sister grabs the edge of the deer hide she was sitting on. She swings it as pigeons appear racing across the top of our hill, under the tree canopy. Her pots and tools scatter but five birds drop, stunned as they hit the hide. My other sisters and I run to collect them, getting all but one as she swings again, knocking down four more.

It's late summer, still a time of plenty, but we are happy and grateful to receive this unexpected gift. I bring water in one of my mother's pots as she rekindles embers of a smaller fire for cooking. She measures out *psin* (wild rice) and rings of dried squash as others pluck the pigeons and clean them. My quick-thinking sister is still grinning. She searches for her lost tools, spreads out her deer hide, and begins to repair the now slightly squished pot she was working on. Soon I'll join my uncles to find the place where these pigeons will roost, but right now we eat.

A Sister's Gift

Little Rapids, **May 1834.**

Light sparkles on Mni Sota Wakpa, the Minnesota River, as the water splashes over rocks in the channel. The river is still running high from snowmelt and spring rain, but the leaves on the trees are opening fast, new and glossy green. The river and floodplain lakes are busy with ducks and geese. Birds are everywhere as I walk back to the village, where my mother and the other women will soon be planting corn. My father is hunting muskrats in a nearby slough to trade their pelts. I will join him but first want to find my older sister Mazaokiyewin (Woman Who Talks to Iron). I think she has something for me—at least I hope so.

My cousins are working near the river, burning the center of a log and carefully scraping out the charred wood to make a canoe. It is a long process, but this one will soon join the others along the bank. Talking with my cousins, I soon spot my sister nearby and move on.

"Chaske," she says, smiling as she sees me coming. "I was just thinking about you." She is sitting in the shade, carefully poking holes in tanned hide to make moccasins. She has bark containers nearby with colorful dried porcupine quills that she'll use to decorate them. She also has some brightly colored glass beads from the trader. The metal awl tip was from the trader too, but it's been placed in a bone handle that she has decorated with dots and lines that are stained red. "Bring one of your feet over here," she says, laughing. "I want to make sure this will fit you."

Passenger pigeons fly by in small groups as Mazaokiyewin adjusts the hide against my foot. Watching them, I wonder if it's time yet. Seeing this, my sister answers my unspoken question. "Soon," she says. It'll be time when the young pigeons, or *squabs*, are leaving the nest. I and others have been catching lone pigeons for a few weeks while the main flock is tending nests nearby. Sometimes we can hear the birds calling and cooing, shuffling around, and sometimes the crack of falling branches. We will not disturb the birds on the nests, so that the eggs will hatch and enough will survive that there will always be flocks returning to us. But after the squabs *fledge* and leave the nest, they will be fat and slow—and delicious. We are waiting for that brief time.

In preparation for the squabs, some of the women are weaving or repairing nets. Young men and boys gather poles and weapons, children using smaller versions of the ones their fathers have to hunt deer and other large game. I used a small bow like that when I was younger.

Reading my mind, Mazaokiyewin puts down the hide. "I don't think you came here wondering about moccasins," she says, again with her sly smile. She goes to a nearby shelter and brings out a new wooden bow and three blunt arrows. "These will be perfect for squabs," she says, setting down the arrows. Instead of a stone or iron point, they have round wooden heads that will stun the birds. "Bring me some turkey feathers if you see them." There is some subtle decoration on the bow similar to her awl handle, but it is mostly plain. "You'll add your own designs there as you have success hunting," she says.

My heart is bursting with joy from these gifts that I would never have asked for. Somehow she knew. I thank her and search for feathers, and other useful presents, as I go to join my father.

Barrels Full of Birds

Near Wabasha, May 1871.

"Eliza!" my father calls. "Quickly, fetch my gun!" I'm in the orchard and it's hard to hear him over what sounds like pounding from an intense storm, howling from above. The sunlight dims as I run out from the apple trees. Farmhands are gathered near my father, hats in their hands and staring upward. A dark river fills the sky, nothing but birds.

Mother is standing in the open door of our house, clutching the ties of her bonnet and looking upward. Gabriel, my little brother, brings Father's rifle outdoors, and I run forward to take it. He too stares upward in disbelief. Wagons are on the road, so many that they form a caravan. Drivers snap reins and call to their horses and oxen. Other men on horseback border the road and weave between the slow traffic. I look for familiar faces but see none. All are strangers and they are following the birds. Father appears beside me and takes his rifle. "The telegraph," he says. "They must be spreading word of the flock."

We set out on foot and follow a creek. It's the same direction that the birds are going, but we stay away from the road. The birds seems louder up ahead and more pigeons are flying lower, toward woodland in front of us. The treetops sway with the movement of the birds, some taking off but most landing and moving among the branches. Gunshots, both close by and distant, break through the din of the cooing and squabbling pigeons and the shouts of men among the trees. Three people are stretching a large net, pulling the ends to anchor on trees and one of the large wagons.

People are unloading wagons, setting up small shelters or tents, and starting fires at cooking stations. People around us knock nests from the trees with long poles. Gunfire rings out. A man in ragged clothes runs past, swinging wildly above his head with a boat's long oar. He jumps and whoops when by luck he hits one of the pigeons, knocking it from the air. He quickly stuffs it into a sack.

Amid all the activity, Father hasn't shot at the birds yet. He shakes his head in disbelief at the crowd of strangers and all the chaos. "This is too much," he says almost to himself, so softly that I barely hear. "There will be nothing left." He suddenly turns to me and speaks in his normal voice, having come to a decision. "Let's go across to the other edge, try to get away from these people," he says. "We'll take some birds that are not on nests, as we usually do. Enough for some meals now and some to keep for later." The pigeons don't come every year, and this is the most I've ever seen, but I've heard stories of big migrations years ago. Depending on when the birds arrived, the farmers would be happy to have an easy food source, but if crops were in the fields, the birds could badly damage them. This year the planting is still underway and the seed in the fields could be at risk, but these birds are more interested in last year's acorns and nuts on the forest floor.

Walking north to reach the edge of the trees, we weave through the crowd. At the edge of the commotion, Father pauses long enough to take a few shots, taking care that no people are in the way. I collect those birds and our sack is soon full as I'm able to grab a few more. Walking home, we hear a train whistle and see its smoke ahead. Market hunters drive a line of wagons that way, each filled with barrels that hold hundreds of birds, soon to be meals for people in Chicago, Philadelphia, and New York City, distant places that I've heard of but cannot imagine.

Back from the Brink

Besides the passenger pigeon, other animals threatened by human activities nearly became extinct too but were brought back from the brink. Bison are a famous case, nearly hunted out of existence at the end of the 19th century but since recovered enough to have herds once again in Minnesota. Trumpeter swans, whose entire North American population once dipped below 100, are becoming plentiful here once again. And Canada geese, which were also once rare from overhunting, are clearly back in a big way.

With passenger pigeons, we went several steps too far. Warnings were ignored by too many, and by the time of their extinction in 1914 it had been too late for decades. Attempts to preserve them through breeding in zoos could not save a species that was adapted to huge, wide-ranging flocks.

Today we have laws and regulations that help protect our natural resources, including animal species, from the kind of uncontrolled exploitation that killed off the passenger pigeon. And wildlife advocates and experts, including those at the Minnesota Department of Natural Resources, have led innovative efforts to *restore* species whose numbers have declined by *reintroducing* them to places where they used to live.

Just Imagine. It's sad to think that people completely killed off the passenger pigeon. It's too late for restoration or reintroduction, and it's now a bird we'll never get to see, hear, or appreciate.

However, we can use our imaginations not just to picture passenger pigeons in the past, as we did in the stories you just read, but to picture them today, as if they were still alive.

It is odd to think it, but we would likely find it very normal if, for example, a massive flock darkened the sky over Minneapolis.

Picture their sudden arrival, and birds filling the trees of your neighborhood. Some passenger pigeons cluster at feeding stations that were set up in anticipation of their arrival. Some get shooed away from flower gardens, not always with success. The commotion, the sights, and the noise draw people outside.

This imaginary flock's presence would be exciting, much like seeing bald eagles and other raptors back in cities and across the countryside today.

The passenger pigeon's extinction is a loss that we all carry, but we remember their thunder.

Teachers resources. Find a Teachers Guide and other resources for this and other Young Naturalists stories at *mndnr.gov/young_naturalists*.