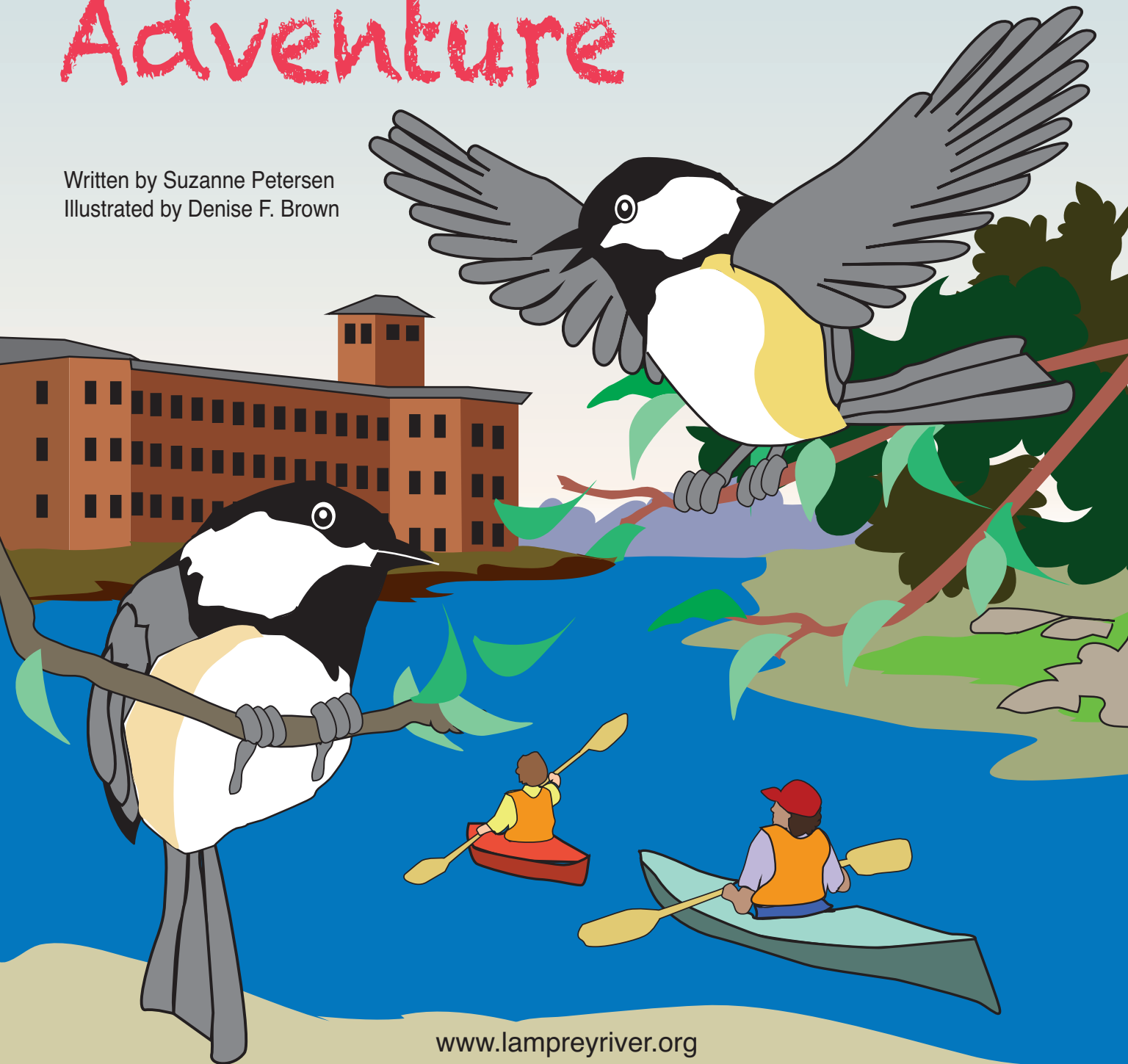


# Chick & Dee-Dee's Lamprey River Adventure

Written by Suzanne Petersen  
Illustrated by Denise F. Brown



# Chick & Dee-Dee's Lamprey River Adventure

Written by Suzanne Petersen  
Illustrated by Denise F. Brown



Chick & Dee-Dee's Lamprey River Adventure

ISBN-10:

0-9852639-9-7

ISBN-13:

978-0-9852639-9-7

©2016 Wild and Scenic Lamprey River Advisory Committee. All rights reserved.

No part of this book may be reproduced or transmitted in any form, including photocopying or electronic storage retrieval, without written permission from Wild and Scenic Lamprey River Advisory Committee.

Funds for this project were provided by the National Park Service through CFDA:15.594, Lamprey River Wild and Scenic River Assistance, and National Park Service Call To Action Grant #216201, Lamprey PWSR (NH)—Illustrating “Lamprey Through History” Book.

The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Government. Mention of trade names or commercial products does not constitute their endorsements by the U.S. Government.



For more information about the Lamprey River  
visit [www.lampreyriver.org](http://www.lampreyriver.org)

Published by  
[www.raccoonstudios.com](http://www.raccoonstudios.com)

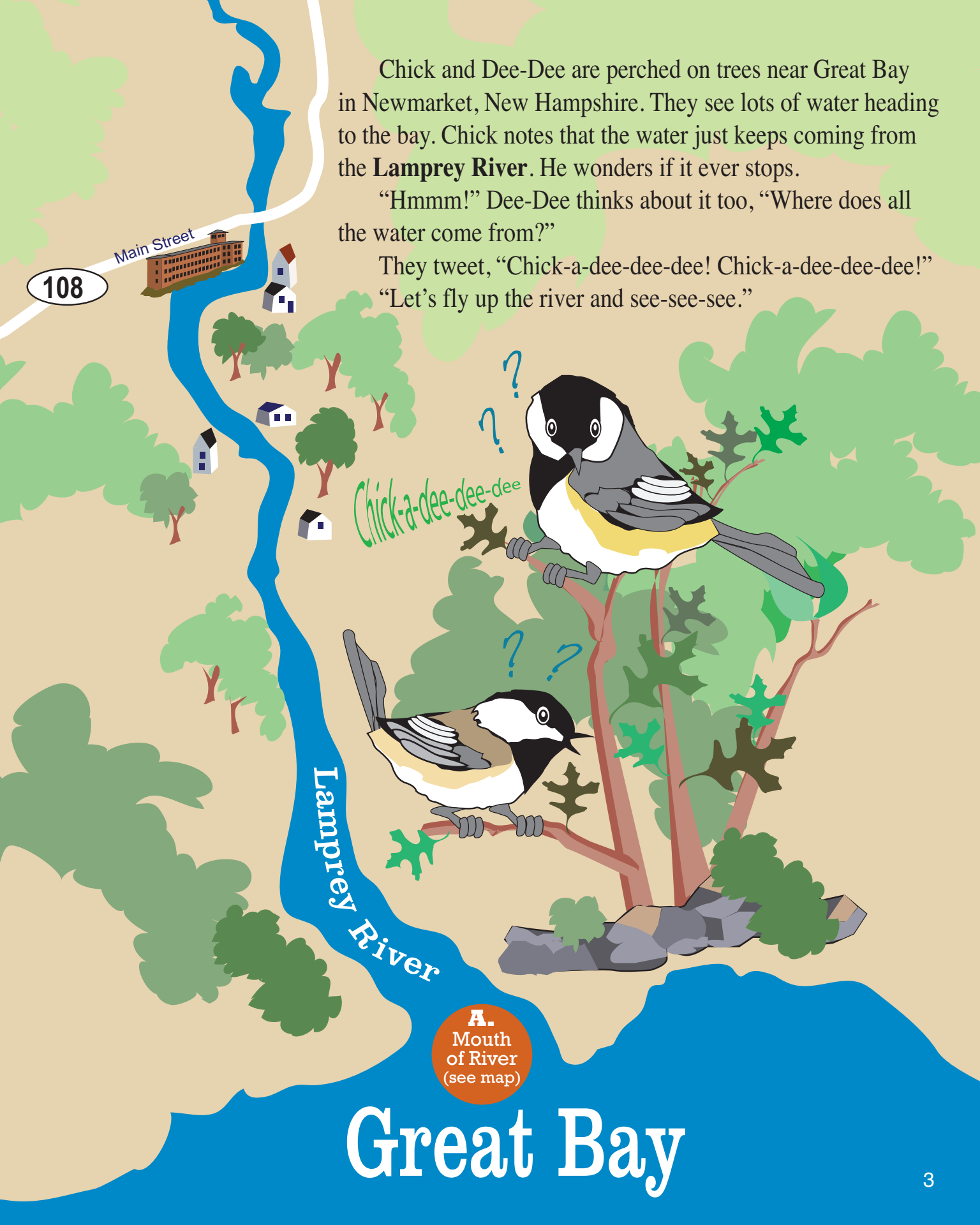
©2016 Wild and Scenic Lamprey River Advisory Committee

Chick and Dee-Dee are perched on trees near Great Bay in Newmarket, New Hampshire. They see lots of water heading to the bay. Chick notes that the water just keeps coming from the **Lamprey River**. He wonders if it ever stops.

“Hmmm!” Dee-Dee thinks about it too, “Where does all the water come from?”

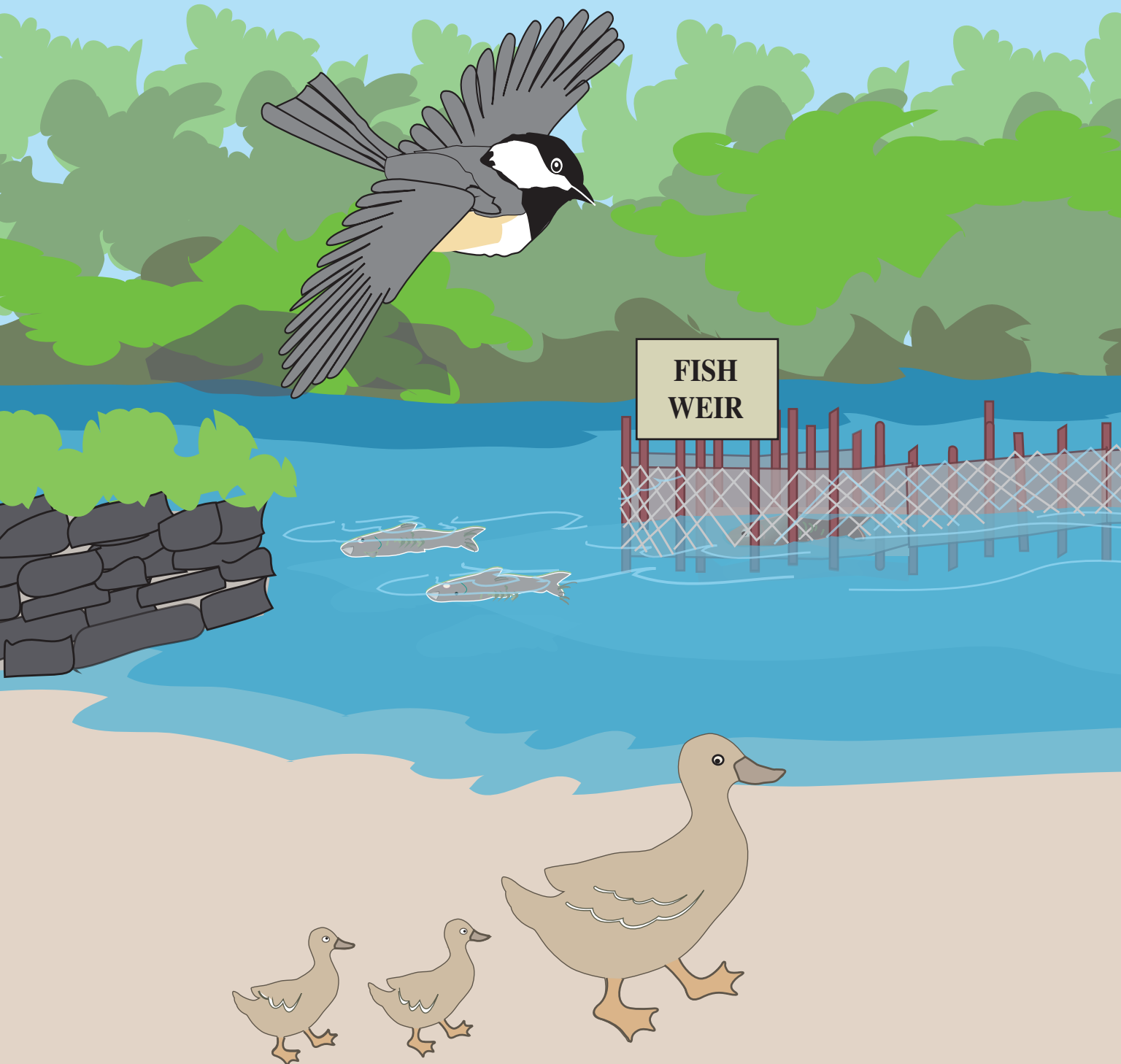
They tweet, “Chick-a-dee-dee-dee! Chick-a-dee-dee-dee!”

“Let’s fly up the river and see-see-see.”



# Great Bay

They fly up the river toward downtown Newmarket and see the strange fence made of stakes and nets in the water. “Who built that? Why? What does the sign say?” asks Dee-Dee.



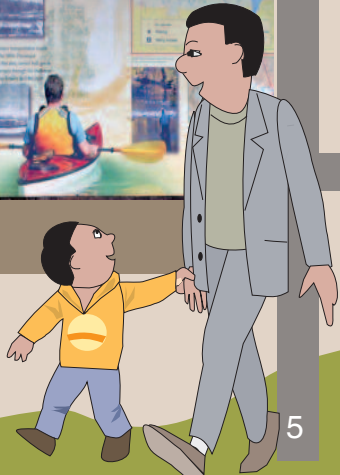
“Look, there’s a sign on the shore about the Lamprey River,” says Chick.



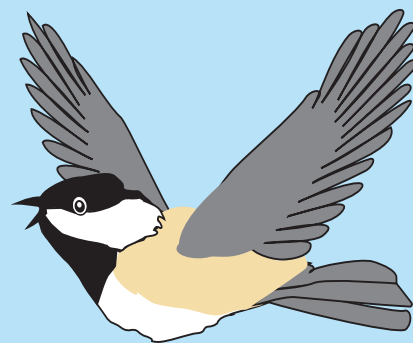
**B.**  
Fish Weir  
(see map)

Chick and Dee-Dee listen as a father reads the sign to his son. “Welcome to Schanda Park. This **fish weir** is the only one of its kind in New Hampshire. Native Americans built weirs like this to catch migrating fish. Instead of nets, they used brush to trap the fish.”

The Richard Schanda Conservation Park

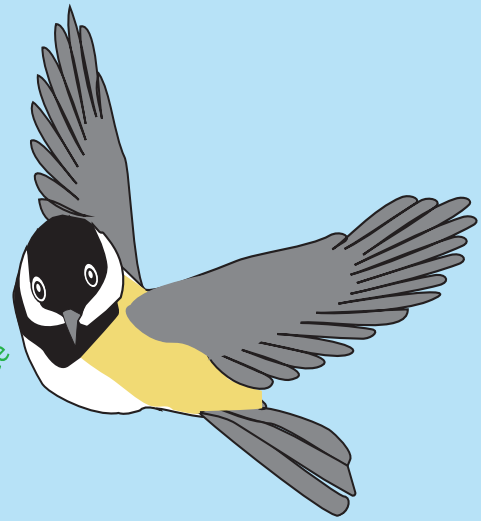


The birds fly over the big buildings downtown. These buildings don't look like the other houses in town. They are made of stone and brick. "Hmmm.... What does that sign say?" asks Dee-Dee.



Chick and Dee-Dee listen  
as someone reads the sign.

Chick-a-dee-dee-dee



**C.**  
Old  
Mills  
(see map)

## Welcome to the Newmarket Historic Mill District

This area was once a busy mill complex where mostly cotton cloth was made. Huge weaving looms and offices were inside the buildings.

Water power from the Lamprey River provided the energy to run the machines. The mills closed in 1923. The mills now house several small businesses and condominiums.





They fly to the **Macallen Dam**. “It’s so high! And, the water flows so fast! How can our fish friends possibly get up and over that **dam**?” asks Chick.

They see a small group of people talking about something. “What are they saying?” asks Dee-Dee.



**D.**  
Fish Ladder at  
Macallen Dam  
(see map)



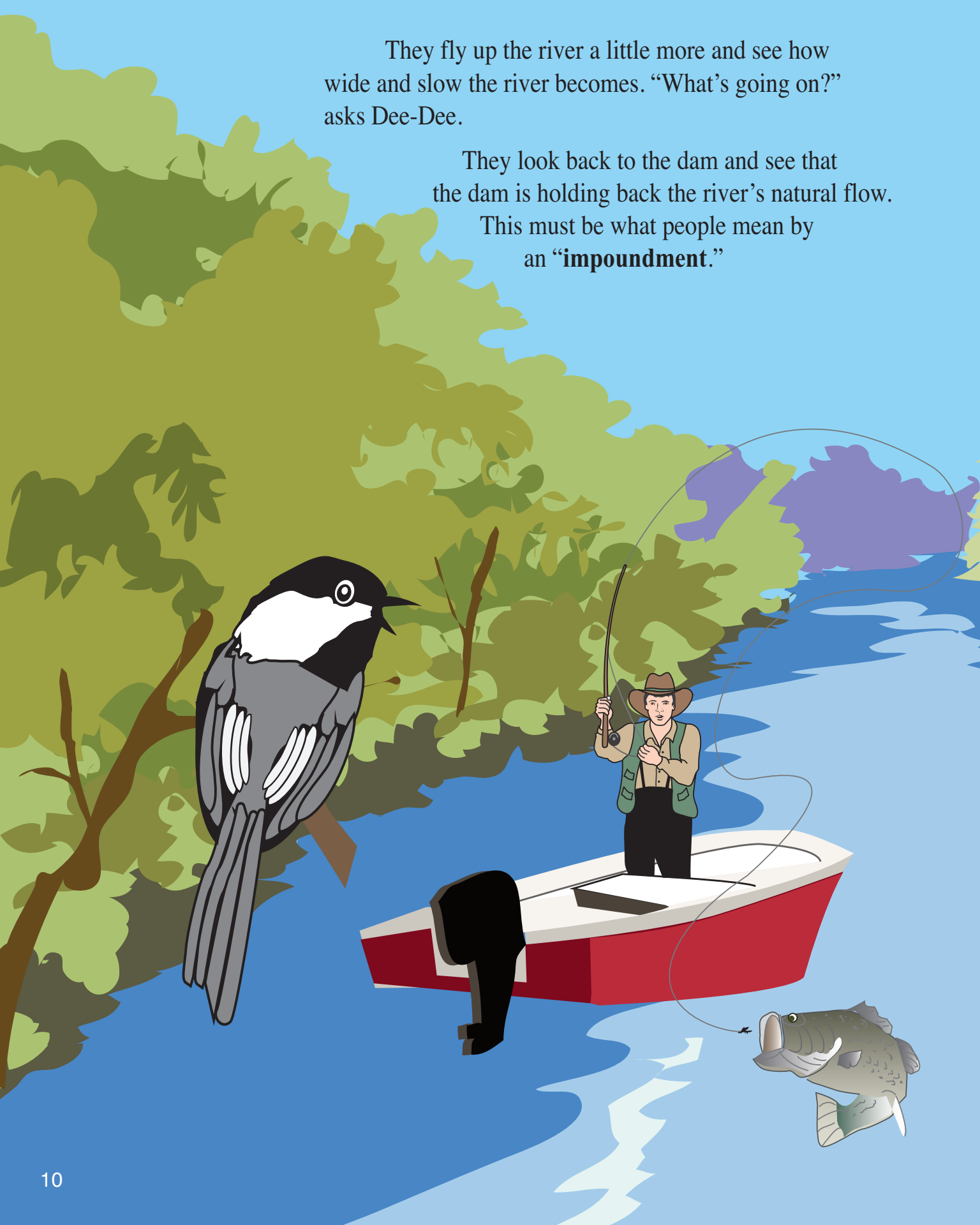
A New Hampshire Fish and Game Officer explains, “**Fish ladders** are designed to help fish get up and over high dams. The river herring swim up the ramps and stop at rest areas along the way. This ladder is different from the stair-like fish ladders that salmon use. Without this ladder, the river herring could not reach their **spawning areas** upstream. The Lamprey River has more river herring than most rivers on the East Coast in North America.”



They fly up the river a little more and see how wide and slow the river becomes. “What’s going on?” asks Dee-Dee.

They look back to the dam and see that the dam is holding back the river’s natural flow.

This must be what people mean by an “**impoundment.**”



Chick thinks this over and then says, “Even though this part of the river isn’t natural, people certainly enjoy boating and fishing here!”



**E.**  
Impoundment  
(see map)

Farther up, the river widens even more. This is where the **Piscassic River** joins the Lamprey River. People have built a nice boat ramp here at **Piscassic Park**.

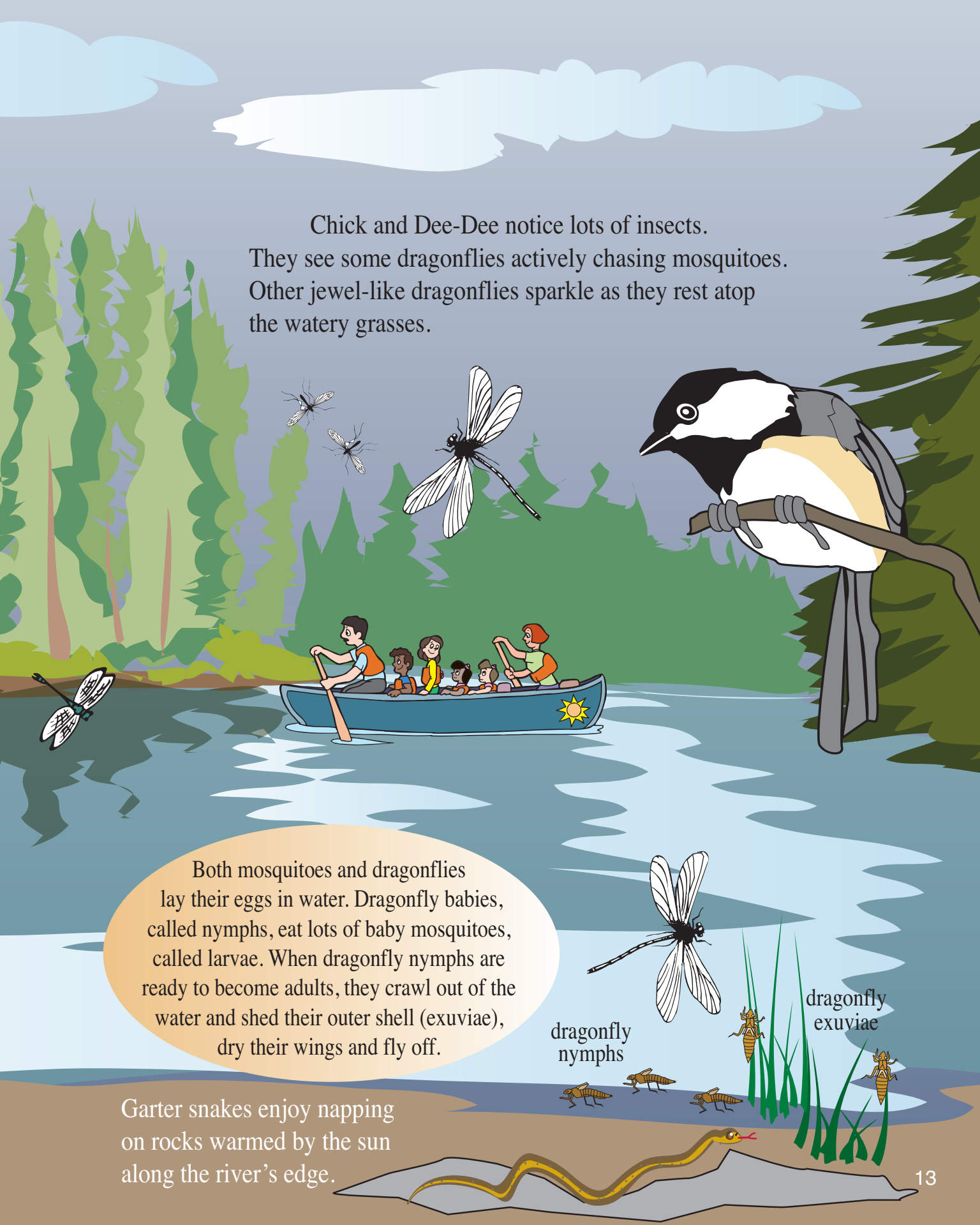


mosquito  
larvae

Mosquito larvae become adults  
underwater, then emerge into the air as adults.  
Many mosquitoes are eaten by dragonflies.  
People are happy that dragonflies eat  
so many mosquitoes!

**F.**  
Boat  
Launch  
(see map)

Chick and Dee-Dee notice lots of insects.  
They see some dragonflies actively chasing mosquitoes.  
Other jewel-like dragonflies sparkle as they rest atop  
the watery grasses.



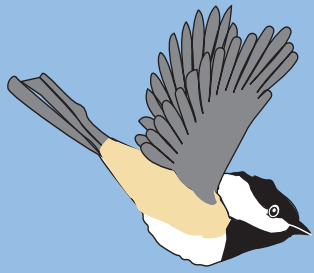
Both mosquitoes and dragonflies lay their eggs in water. Dragonfly babies, called nymphs, eat lots of baby mosquitoes, called larvae. When dragonfly nymphs are ready to become adults, they crawl out of the water and shed their outer shell (exuviae), dry their wings and fly off.

Garter snakes enjoy napping on rocks warmed by the sun along the river's edge.

dragonfly nymphs

dragonfly exuviae

They fly to a fancy house on a hill at a bend in the river. The owner is outside telling a visitor that the **Thompson Inn** used to be called the **Highland House**. People came here from the city for a vacation to enjoy the peace and quiet of nature. It is now a popular place for wedding parties.



**G.**  
Thompson  
Inn  
(see map)





They keep flying up the river and see a family playing near **Packers Falls**. “They look as though they are having fun. That water sure looks clean!” says Dee-Dee.

**Welcome to  
Packers Falls**

- No lifeguard on duty.
- Do not swim alone.
- Beware of slippery rocks.

**H.**  
Packers  
Falls  
(see map)



As they continue flying upstream, the river widens and slows again. And there's the **Wiswall Falls Dam and Fish Ladder** at **John Hatch Park**.

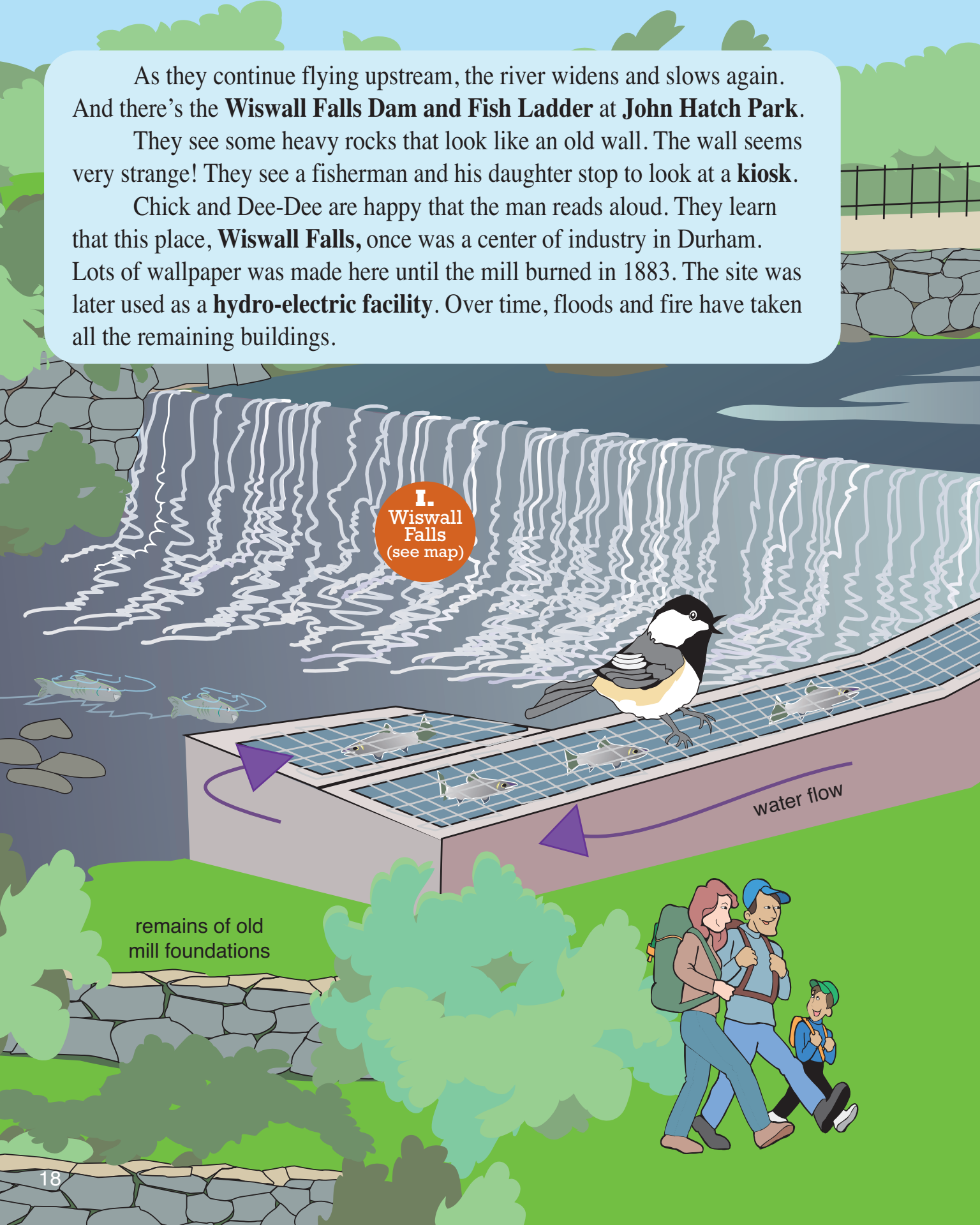
They see some heavy rocks that look like an old wall. The wall seems very strange! They see a fisherman and his daughter stop to look at a **kiosk**.

Chick and Dee-Dee are happy that the man reads aloud. They learn that this place, **Wiswall Falls**, once was a center of industry in Durham. Lots of wallpaper was made here until the mill burned in 1883. The site was later used as a **hydro-electric facility**. Over time, floods and fire have taken all the remaining buildings.

I.  
Wiswall  
Falls  
(see map)

remains of old  
mill foundations

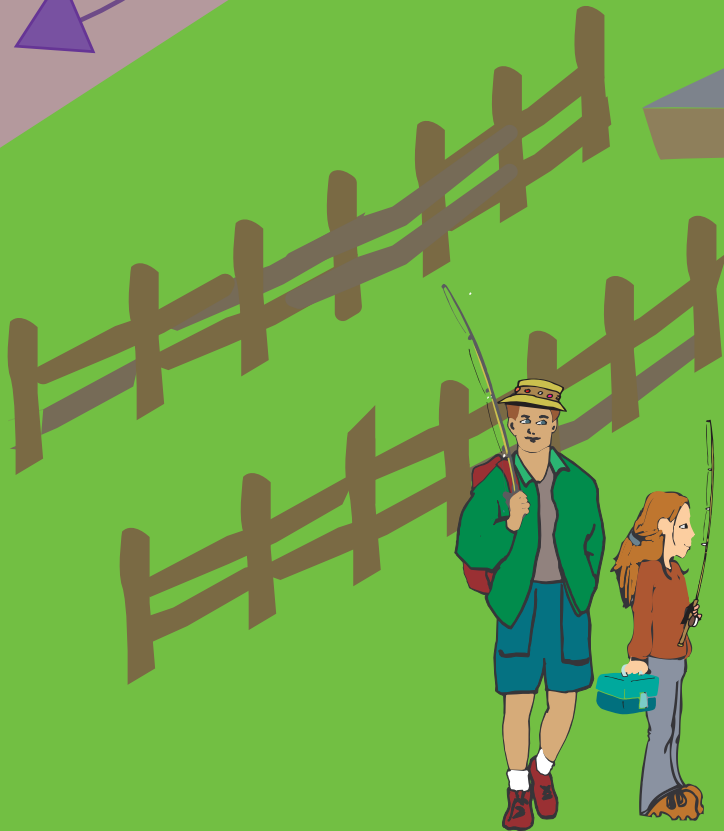
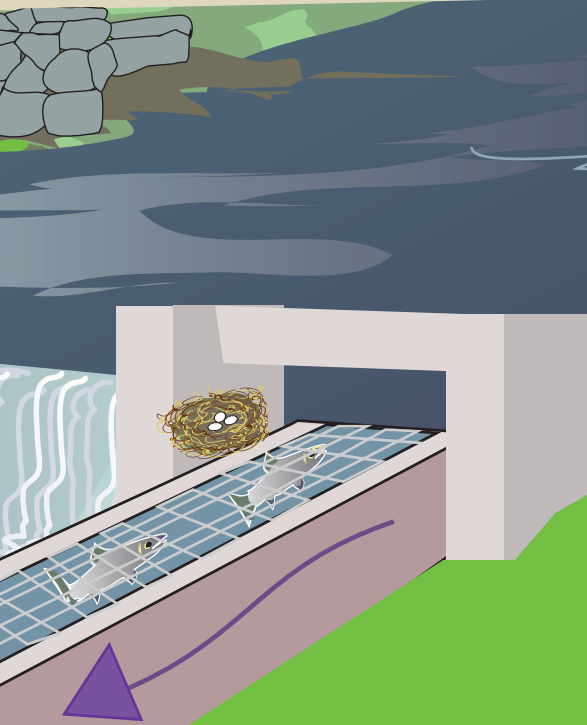
water flow



The **fish ladder**, like the one in Newmarket, is designed to help river herring swim upstream to spawning areas.



Chick notices some tiny white eggs. “Look! Some birds have built a nest right next to the fish ladder. I would never build a nest there!”



### BALANCING THE PAST AND PRESENT



### JOHN HATCH PARK AT WISWALL FALLS

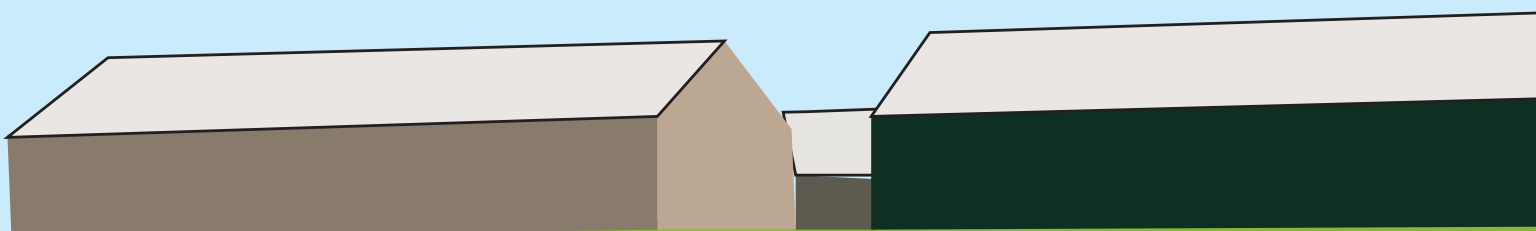


Chick and Dee-Dee continue on their big adventure flying over farms, forests and fields where cows are grazing on lush green grass.

“There’s a sign about the **UNH Organic Dairy Research Farm** at the **Burley Demeritt Farm**. How is an organic farm different from a regular farm?” Dee-Dee wonders.



“Organic farming means that vegetables and animals are raised without artificial chemicals or pesticides in the soil or food. They protect the soil and water from pollution,” says Chick.



**J.**  
UNH Dairy  
Farm  
(see map)



**UNIVERSITY of NEW HAMPSHIRE  
ORGANIC DAIRY  
VISITOR INFORMATION**

Organic farming means that vegetables and animals are raised without artificial chemicals in the soil or food.

- No pesticides
- No man-made hormones
- No genetically modified food

Organic farms try to protect soil and water from pollution that often happens with normal farming.


**SIGN IN ~ BOOTS**

People have to put special boots on over their shoes when they visit the farm so they don't bring in any bad germs or bacteria that could make the cows ill.

artist's conception of  
how a water wheel works



Captain  
Reuben Hill  
Bridge

  
NATIONAL  
WILD AND SCENIC  
RIVERS SYSTEM  
LAMPREY  
RIVER  
Enjoy It, Preserve It

**K.**  
Capt. Reuben  
Hill Bridge  
(see map)





The next stop is a bridge that crosses the river. The sign says **Captain Reuben Hill Bridge**. “Who was Captain Reuben? Where is the hill?” asks Dee-Dee.

“Oh! A man named Captain Reuben Hill used to own a mill here,” says Chick. “I wonder what happened to the mill and if there was a dam here.”



Soon they are on their way again. They come to another dam at **Wadleigh Falls**, but this one looks different. The other dams have water that flows over the top in a smooth sheet. This one has two big broken areas. Each break is called a **breach**.

Dee-Dee notes, “Look at the river herring at the bottom. They are trying, but they just cannot get up those falls!”



L.  
Wadleigh  
Falls  
(see map)

A neighbor's dog is enjoying a swim in the cool, calm water out of the main flow of the river. Chick and Dee-Dee tweet to a mallard duck as he paddles peacefully, looking for plants to nibble.



They fly past the **Wadleigh Falls Dam**, over a bridge with a road to cross the river. A bicyclist has stopped to read a sign on the bridge.



“Look at all the little water striders!  
They seem to walk on the water!”  
says Dee-Dee.

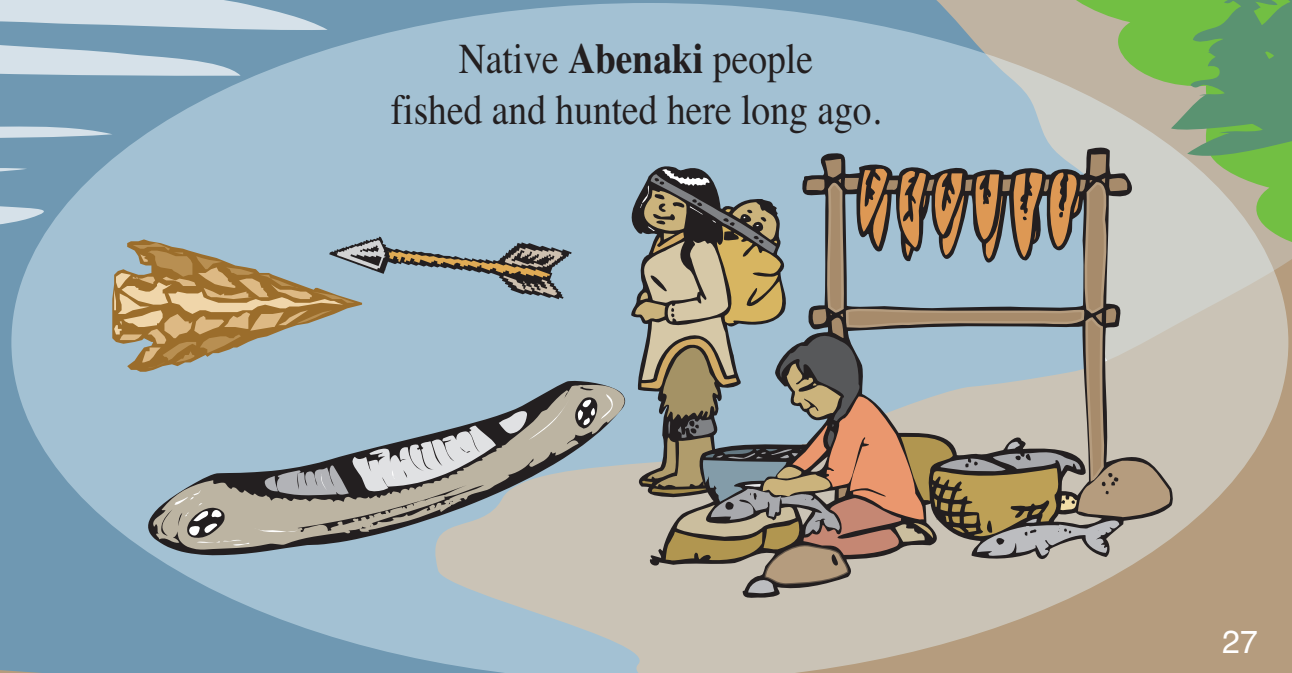
The bicyclist reads the sign aloud, “Very old tools were found here that indicate this area was used 8,000 years ago by native peoples for fishing and gardening.

European settlers moved in. Beginning in 1665 when the first mill was built, **Wadleigh Village** was an active commercial community for almost 300 years. People operated a sawmill to cut local timber, a grist mill to grind local grains, a tannery to process local leather, a leatherboard factory that made shoe soles, and a medicine mill that made use of local herbs. Two stores, a post office, and a hotel were also operated here.

The activities ended in 1921 when the last mill burned.”

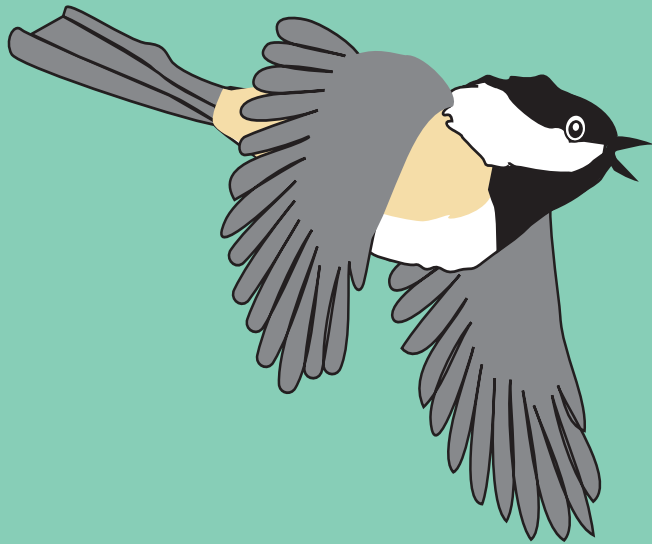
A stylized illustration of a bird with a black head and back, a white breast, and a yellowish-brown belly, flying over a river. The background shows green trees and a blue sky.

L.  
Wadleigh Falls  
Breached Dam  
(see map)

A circular inset illustration showing Native Abenaki people. A woman stands with a child on her back, another person is kneeling and preparing food, and a wooden rack holds hanging fish. A canoe, an arrow, and a spear are also shown.

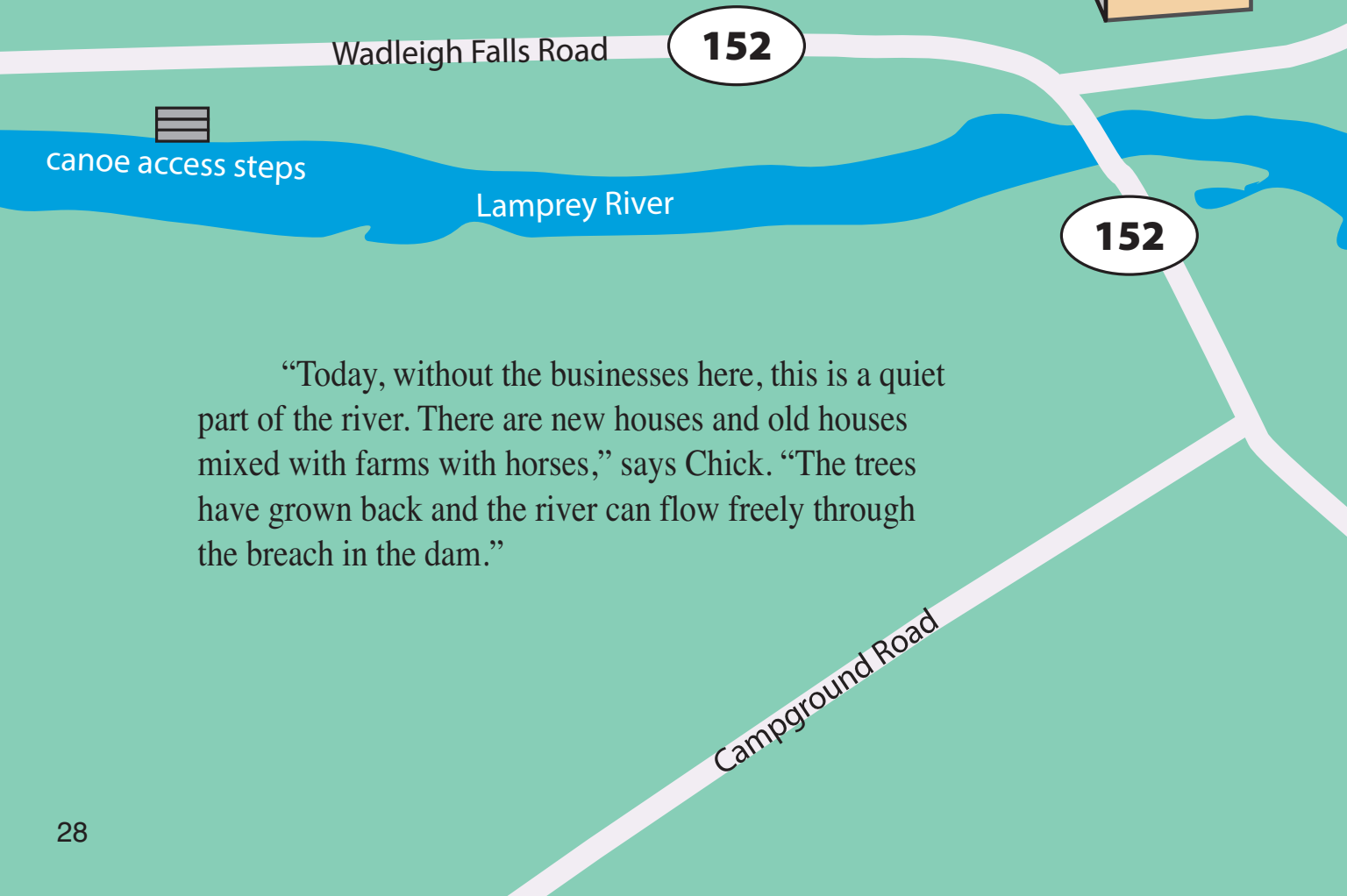
Native **Abenaki** people  
fished and hunted here long ago.

Chick and Dee-Dee fly back around **Wadleigh Falls** to get a better look. They see blocks of granite scattered around the site. Could these be the remains of the old mills?



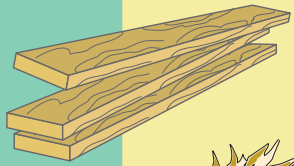
*chick-a-dee-dee-dee*

**M.**  
Wadleigh  
Village  
(see map)



“Today, without the businesses here, this is a quiet part of the river. There are new houses and old houses mixed with farms with horses,” says Chick. “The trees have grown back and the river can flow freely through the breach in the dam.”

Several businesses at Wadley Village used water power to make products to sell.



sawmill to cut trees into lumber



tannery to make shoe soles from hides



grist mill to grind corn and wheat into flour



mill to grind herbs for medicine

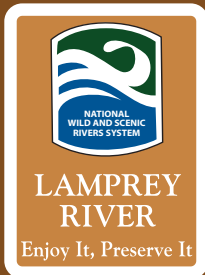


Chick-a-dee-dee-dee





# Public Canoe Access



Check equipment for invasive species before launching.

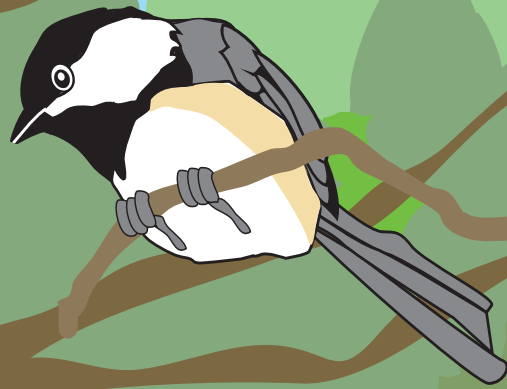
Wear an approved personal flotation device.

Respect wildlife and abutting landowners.

Leave no trace of your visit.

Caution: Dangerous water conditions exist approximately 1/8 mile downstream from this sign.

**N.**  
Canoe  
Access  
(see map)

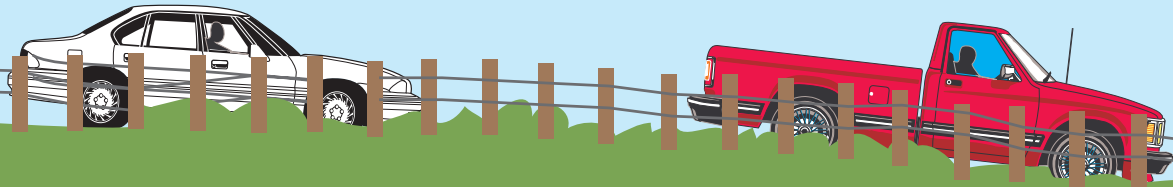


They fly upstream a bit more and come to some granite steps that lead to the river. Some paddlers finish reading the sign about safety and then launch their kayaks into the river.

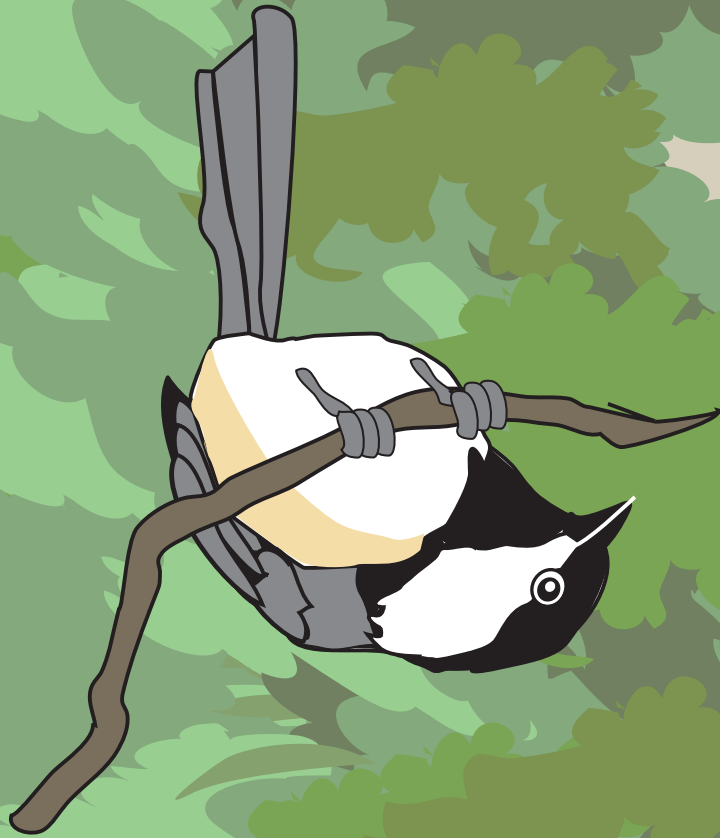




As they fly over forests and busy roadways, they come to a small parking lot near a bridge.



0  
Wildlife  
Tunnel  
(see map)



They notice a tunnel that runs under the road and see a **Blanding's turtle** walking out of the tunnel.

“What are you doing in that tunnel?” Dee-Dee asks the turtle.

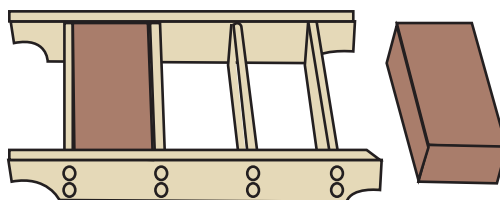
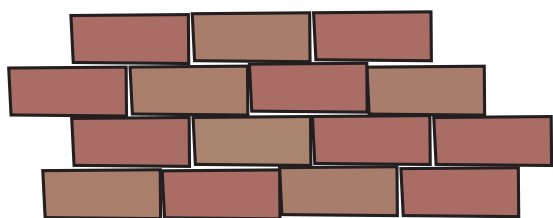
The turtle replies, “Humans built the tunnel so that animals like me wouldn’t have to cross the road. If only people would build more of these tunnels! Crossing roads is sooo dangerous!”





Chick and Dee-Dee continue on. They fly across Route 125, busy with lots of cars and many businesses. Scary! Soon, they see a big brick building where people are telling stories about the Lamprey River.

One lady says, “**Epping Town Hall** was built with hand-made bricks made of clay dug right here in Epping. Workers put the clay into wooden molds and dried the bricks in the sun. Later, the bricks were put into a wood-fired **kiln** where they hardened. Epping’s many **brickyards** supplied bricks that were used in building Faneuil Hall in Boston and several colleges, including the University of New Hampshire.”

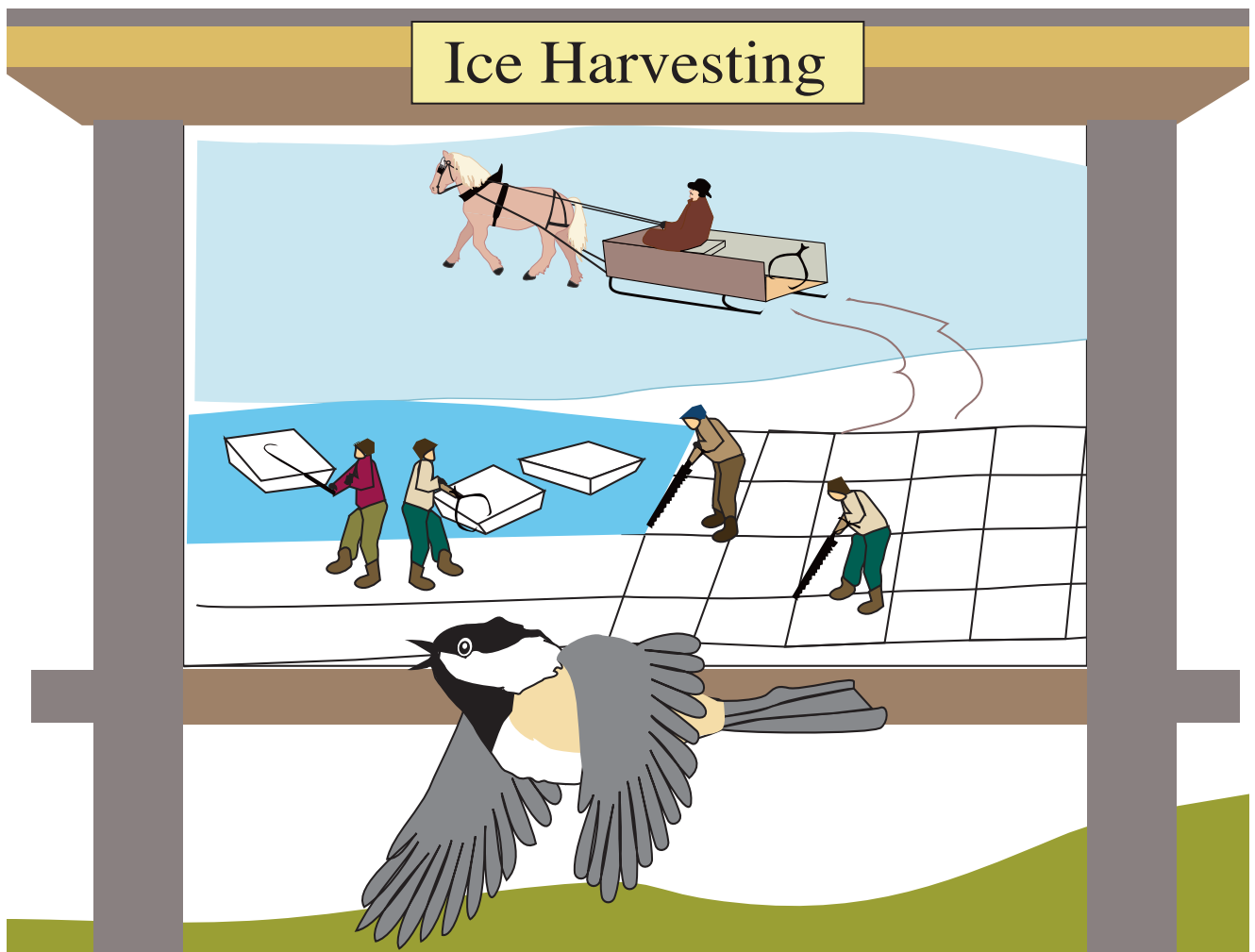


clay brick making

An old man remembers how ice was harvested from the Lamprey River before refrigerators were invented.

He says, “In the winter when the river was frozen, people brought big saws onto the ice with sleds pulled by horses. Men dragged a heavy circular ice saw to scratch 2-3 inch deep grid pattern onto the ice and then used long hand saws to cut out the blocks of ice.”

“The ice was pulled from the river using big metal hooks and loaded onto a horse-drawn sled to be taken back to shore or the ice was floated downstream and loaded directly into the ice house. The ice was covered in sawdust to keep it from melting. All year long, ice men would deliver ice blocks to houses and businesses for use in their kitchen ice boxes. That’s how food was kept cold before electric refrigerators.”



Dee-Dee laughs at the thought of people and horses out on the frozen river cutting ice. “It must have been fun, as long as they didn’t fall in!” Chick thinks.

Their last stop is where the Lamprey River meets the **Pawtuckaway River**. The sign reads **Mary Blair Park**.  
Dee-Dee asks, “Who was Mary Blair?”



A couple of hikers have stopped to read the sign.  
“**Mary Folsom Blair** was a popular school teacher in Epping. Her parents owned this property and this is where her ancestors built and operated one of the earliest mills in New Hampshire. Mary loved nature and frequently led her students on long hikes outside. Mary gave this land to the children of Epping so they could always enjoy nature and the river.”

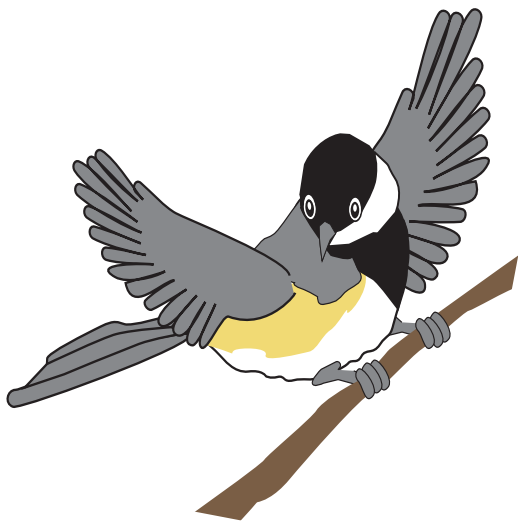




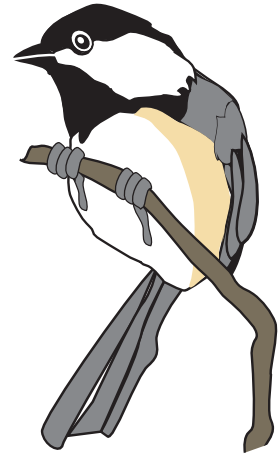
Q-  
Mary Blair  
Park  
(see map)

Route  
27

“This is a great place for families!” tweets Chick. “Look at the two baseball fields and the cool playground! I also see a path with signs that might explain the remains of the dam and some old buildings. I seem to remember that this is where the big **canoe race** starts each spring.



Chick-a-dee-dee-dee

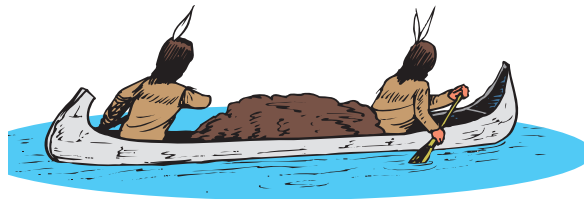


**R.**  
Pawtuckaway  
River  
(see map)

Chick and Dee-Dee think about “**Pawtuckaway**”; it’s not an English word.

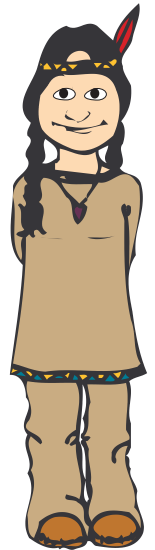
They remember that their parents told stories about people in the area a long time ago who were different from people today. Their word for the river, Pawtuckaway, means “clear shallow river.” They didn’t drive cars; they didn’t even use horses to get around. They walked or used canoes for travel.

They hunted and fished and created small gardens in the woods in the summer. Their world and their way of life were turned upside down when people from across the Atlantic Ocean arrived.



Chick and Dee-Dee decide to rest here for a little while. They think about what they've learned on their flight up the river.

Much has changed over the years. The land was once mostly a big forest where Native Americans hunted and fished. Then settlers came and cleared trees to make room for farms. They built dams and mills to grind the grains they grew and cut the trees for lumber to build their homes.



After many years, the mills were no longer needed. The big mills that remain are no longer factories. They are apartments, condominiums, and offices. Some of the old dams have been removed or changed, so that fish can swim up the river again.

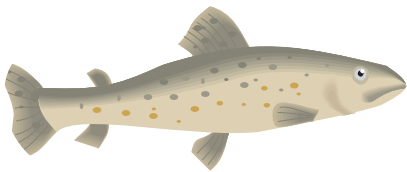
After many years of abuse and neglect, the river is now protected and has once again become a great place for fishermen and canoeists to enjoy.

More and more people come to live here and visit. They will continue to use the river and clear the forests.

Chick and Dee-Dee hope people will learn about the Lamprey River and keep it beautiful and clean so many generations after them will enjoy it.



lamprey

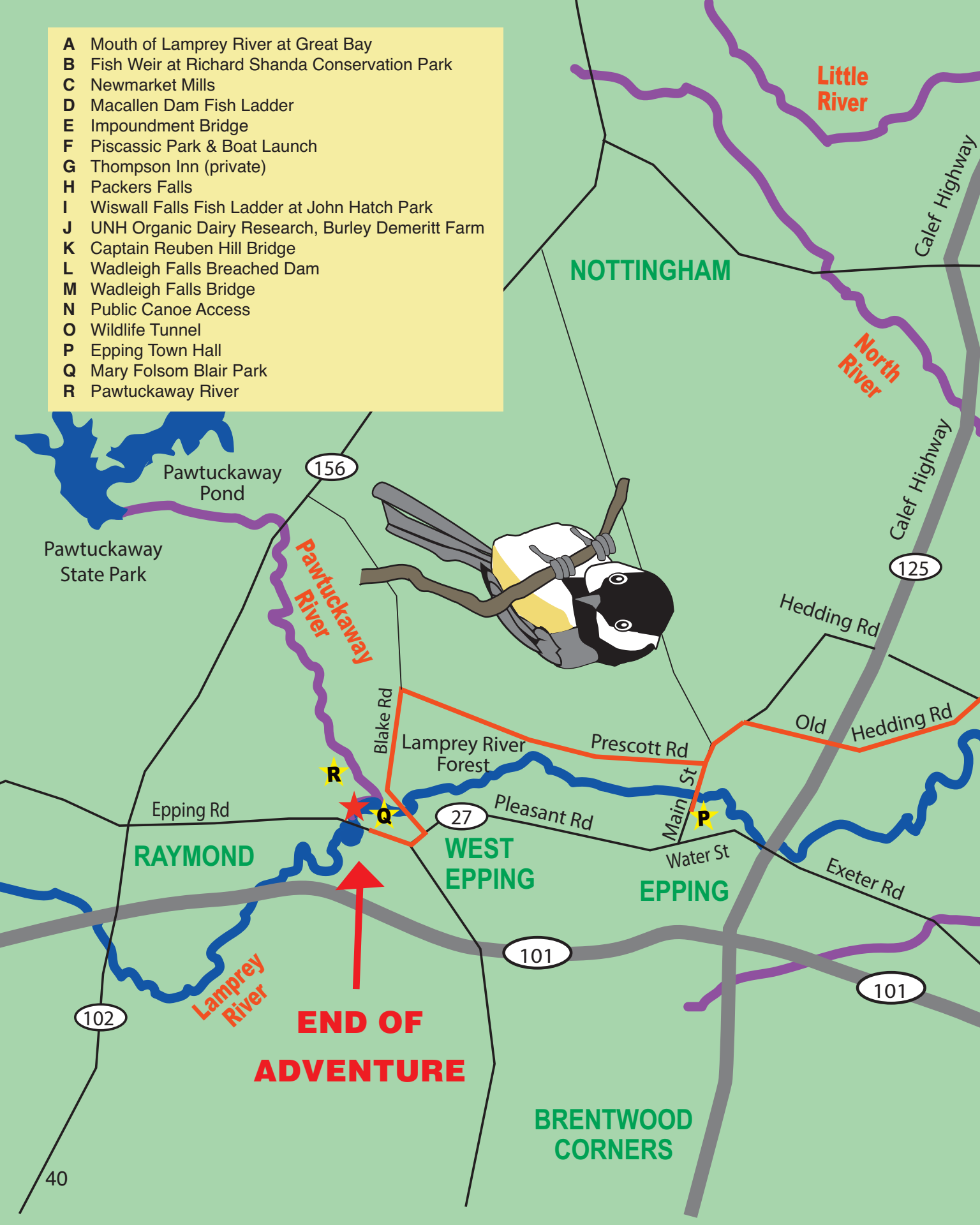


trout





- A Mouth of Lamprey River at Great Bay
- B Fish Weir at Richard Shanda Conservation Park
- C Newmarket Mills
- D Macallen Dam Fish Ladder
- E Impoundment Bridge
- F Piscassic Park & Boat Launch
- G Thompson Inn (private)
- H Packers Falls
- I Wiswall Falls Fish Ladder at John Hatch Park
- J UNH Organic Dairy Research, Burley Demeritt Farm
- K Captain Reuben Hill Bridge
- L Wadleigh Falls Breached Dam
- M Wadleigh Falls Bridge
- N Public Canoe Access
- O Wildlife Tunnel
- P Epping Town Hall
- Q Mary Folsom Blair Park
- R Pawtuckaway River





**START OF ADVENTURE!**

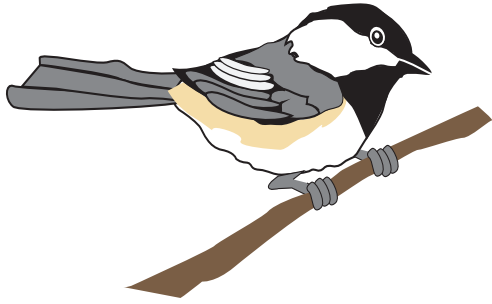
**KEY to MAP**

- ▬ Lamprey River
- ▬ Lamprey tributary
- ▬ Road
- ▬ Highway
- ▬ 'Adventure' Route
- ★ Chick and Dee Dee visited here
- ★ Dam with falls



Chick and Dee-Dee had fun exploring the Lamprey River and trying to figure out where the water comes from. They realize that the water that heads into Great Bay from the Lamprey River really comes from the land around the river. Water connects the river to the bay, the land to the river, and the people and animals around and in the river. We're all connected!

The two little birds fly back to their nest at the mouth of the river. They tweet softly to each other, "Goodnight! Chick-a-dee-dee-dee, Sweet dreams! Chick-a-dee-dee-dee."



## How you can protect the Lamprey River and yourself when you visit here:

- Check your equipment for invasive species of plants before launching boats, canoes and kayaks.
- Wear an approved personal flotation device if you go in the water.
- Use caution when swimming in the river. Do not swim alone.
- You swim at your own risk. There are no lifeguards along the river.
- Wear sunscreen and insect repellent.
- Respect wildlife and abutting landowners.
- Leave no trace of your visit. Carry out your garbage.
- Take care not to step on or touch poison ivy or poison oak.
- Do not eat any berries or mushrooms if you don't know what they are.
- If you live along the river, do not use pesticides or herbicides on your lawn or in your gardens that could harm the river.
- Carry a cell phone and call 911 if you need assistance.
- Tell your friends and families how to stay safe and protect the river.

*“Let’s all do our part to keep the river beautiful and clean”*  
for Chick and Dee-Dee and all of their river friends and creatures.

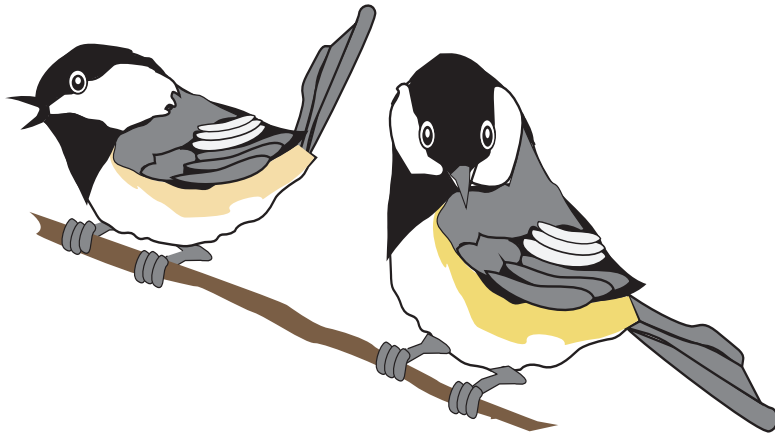
**Plan a visit to the places along the river  
you would like to see!**



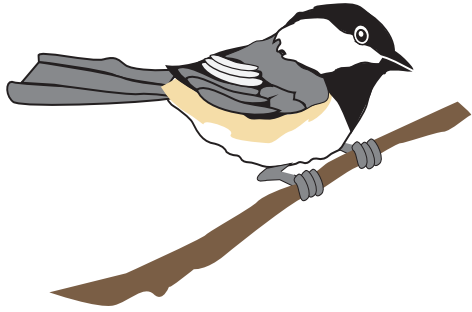
chick-a-dee-dee-dee

## New words to learn:

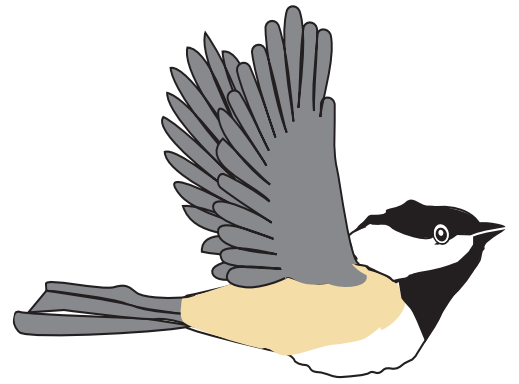
- **a fish weir** is an obstruction placed in a river to direct the passage of fish. Nets guide the fish to the ramp-like structure. The fish swim over it into a boxed in holding area. They cannot swim back out over it and are trapped. A weir can trap fish as they swim upstream or eels as they migrate downstream.
- **a weaving loom** is a machine for weaving alternating threads through a frame to make cloth.
- **a dam** is a barrier in a river that stops water flow.
- **a fish ladder** is a structure on or around dams and waterfalls to help fish migrate. They swim and leap up a series of low steps (like a ladder) into the water on the other side. The fish ladders along the Lamprey are designed for river herring and are like handicap ramps.
- **a spawning area** is where fish lay eggs either on the river bottom or on leaves of an aquatic plant. It is a safe place for eggs to hatch and fry (baby fish) to grow up.
- **an impoundment** is a reservoir of water formed by damming a river or stream.
- **a kiosk** is a small structure that displays information.
- **a paper mill** is a factory that makes paper from wood pulp, old rags, water and other ingredients using a paper machine.
- **a sawmill** is a facility where logs are cut into lumber. Most old sawmills were water-powered.
- **a hydro-electric facility** uses a dam to store river water in a reservoir. Water released from the reservoir flows through a turbine, spinning it to activate a generator and produce electricity.



- **organic farming** uses natural pest control and fertilizers. Insects that eat crop-eating insects are encouraged. Soils are kept healthy by adding compost and letting the soil rest every few years. Organic farming is much better for the environment than farming that relies on chemicals.
- **a breach in a dam** is a break in a part of the dam where the water escapes through.
- **an arrowhead** is a hand-chiseled tip that is sharpened and put on the end of an arrow for hunting. Early arrowheads were made of stone.
- **a personal flotation device** (or a PFD) is a life jacket or life preserver to help a person or pet to keep afloat in water.
- **a Blanding's turtle** is a North American turtle currently on the endangered species list. They are 7"-10" long and have a bright yellow chin and throat. The dark colored shell is speckled with yellow flecks. They live near ponds and clean shallow water. They eat fish, frogs, berries and plant debris and can live to be 80 years old.
- **a wildlife tunnel** helps animals to safely walk through an overpass or an underpass tunnel or culvert to avoid collisions with vehicles.
- **a kiln** is an oven used to dry clay into pottery, tiles and bricks.
- **a brickyard** is a place where bricks are made and stored.
- **Abenaki** translates in English to "people of the dawn" and is a group of Native Americans who live in New England and parts of Canada.
- **Pawtuckaway** is a Native American word that means "clear shallow river."



Places you've  
visited on the  
Lamprey River:



---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

## About The Lamprey River Watershed

The Lamprey River is a historical and ecological gem that connects fourteen towns of southeastern New Hampshire. It begins in Northwood at Betty Meadows Park and travels 50 miles to Newmarket where it enters Great Bay Estuary. Along its path, it encounters forests, wetlands, old mills, dams, farm land, business districts, and residential development.

The Lamprey is afforded many protections by the NH Rivers Management and Protection Program, the National Wild and Scenic Rivers System, and numerous regulations on all levels of government. Overall, however, the Lamprey's future as a community asset relies on the willingness of individuals and towns along the river to take good care of it.

For those who wish to be actively involved with the protection of the river, the **Lamprey River Watershed Association** ([www.lrwa-nh.org](http://www.lrwa-nh.org)) and the **Lamprey Rivers Advisory Committee** ([www.lampreyriver.org](http://www.lampreyriver.org)) welcome your participation. The Watershed Association is composed of volunteers from the towns along the Lamprey. The Advisory Committee is composed of volunteers nominated by the fourteen towns of the Lamprey River and appointed by the NH Department of Environmental Services.





## About the author:

Suzanne Petersen spent her childhood near a very polluted river. Since that time, she has seen how rivers can be healthy and beautiful when people understand them and treat them with respect. To improve that lesson, she has a bachelor's degree in biology and a master's degree in environmental science. She has been involved in environmental education since the late 1980s.

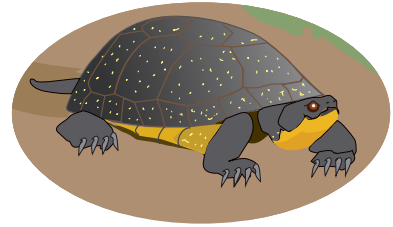
## About the illustrator:

Denise F. Brown graduated from the University of New Hampshire. Her advisor was Professor John Hatch. Brown is author and illustrator of children's books and coloring books. She is an accomplished watercolor and acrylic painter, a graphic designer and owner of Ad-cetera Graphics and Raccoon Studios in Portsmouth, NH. Her landscape paintings, architectural renderings, animal drawings, house portraits and computer skills are how she tells stories with her artwork. Denise is also an artist for The Trail of Painted Ponies collectible horse figurines. See more of Denise's art at [www.raccoonstudios.com](http://www.raccoonstudios.com) and [www.windwildhorse.com](http://www.windwildhorse.com).

# Chick & Dee-Dee's Lamprey River Adventure



Written by Suzanne Petersen  
Illustrated by Denise F. Brown



Chick and Dee-Dee live in New Hampshire where the **Lamprey River** flows into **Great Bay**. The clear blue sky makes the water sparkle and they start to wonder where all that water comes from. The two little birds decide to go exploring and fly up the river.

They meet a few new friends that day and learn about many places to visit along the river as it meanders through woods, farms, and towns.

This colorfully illustrated story is also an intriguing history lesson of ways people and animals have used the river. It tells us some ways to protect it and keep it beautiful and clean for generations to come. A handy map of Chick and Dee-Dee's adventure is included so you and your family can explore the Lamprey River, too!

