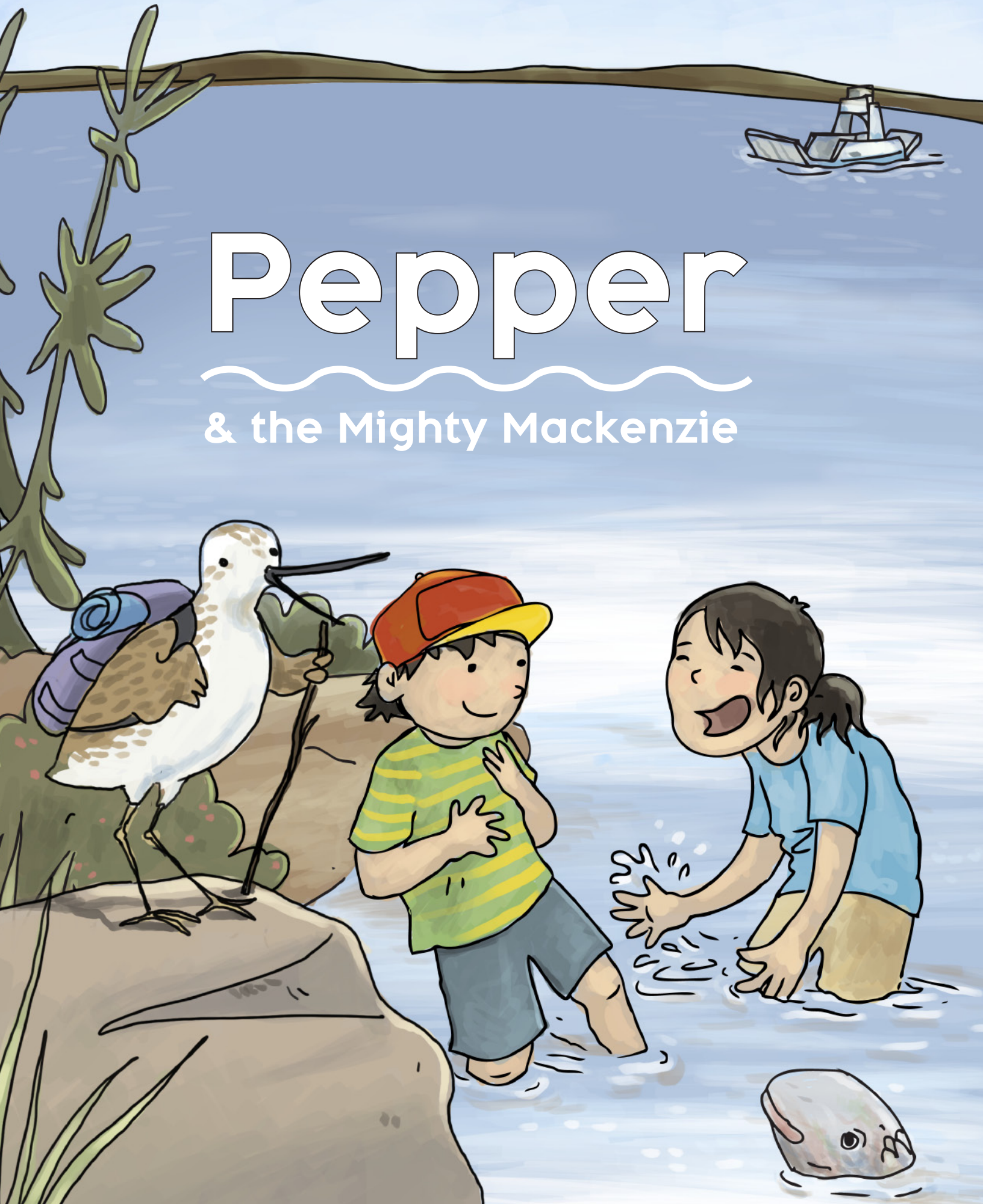


Pepper

& the Mighty Mackenzie



Pepper

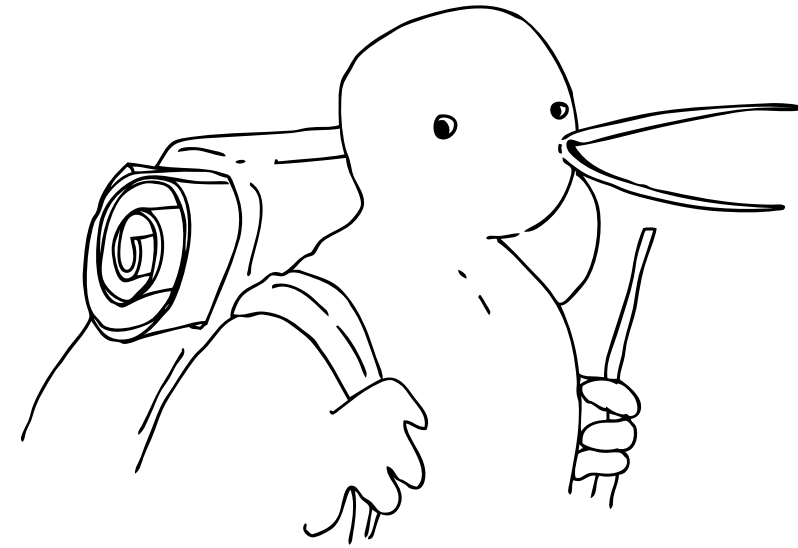
& the Mighty Mackenzie



Written by: Ecology North
Illustration: Alison McCreesh
Design: Jazmine Gardner
Supported by: The Government
of Northwest Territories

What is a Watershed?

Watersheds can be all different sizes, from small to very large. Imagine you are on a canoe in the middle of the lake, looking around you. The watershed of that lake could be all the land that you can see around you. On the other side of the hill, the water will flow downhill in a different direction, into a different lake, so that lake has its own watershed.



Meet Pepper

Meet Pepper the sand piper. She has come all the way from South America! She is on a long journey to the Arctic Ocean where she will nest for the summer. But she is an easily distracted sand piper so she is very late. The rest of her flock flew in the spring and now she is hurrying to find them. She knows to follow the flow of the Mackenzie River and that will lead her to the ocean. But there is so much to see on the way!

There are five main watersheds in Canada: the Atlantic, the Hudson Bay, the Arctic, the Pacific and the Gulf of Mexico. Almost all of the Northwest Territories is contained within the Arctic watershed.

It is called the Arctic watershed because nearly all of the rivers eventually flow towards the Arctic Ocean.

Our watershed contains the mighty Mackenzie River. Many people who live here call the river Deh Cho. This means Big River. It is Canada's largest river.

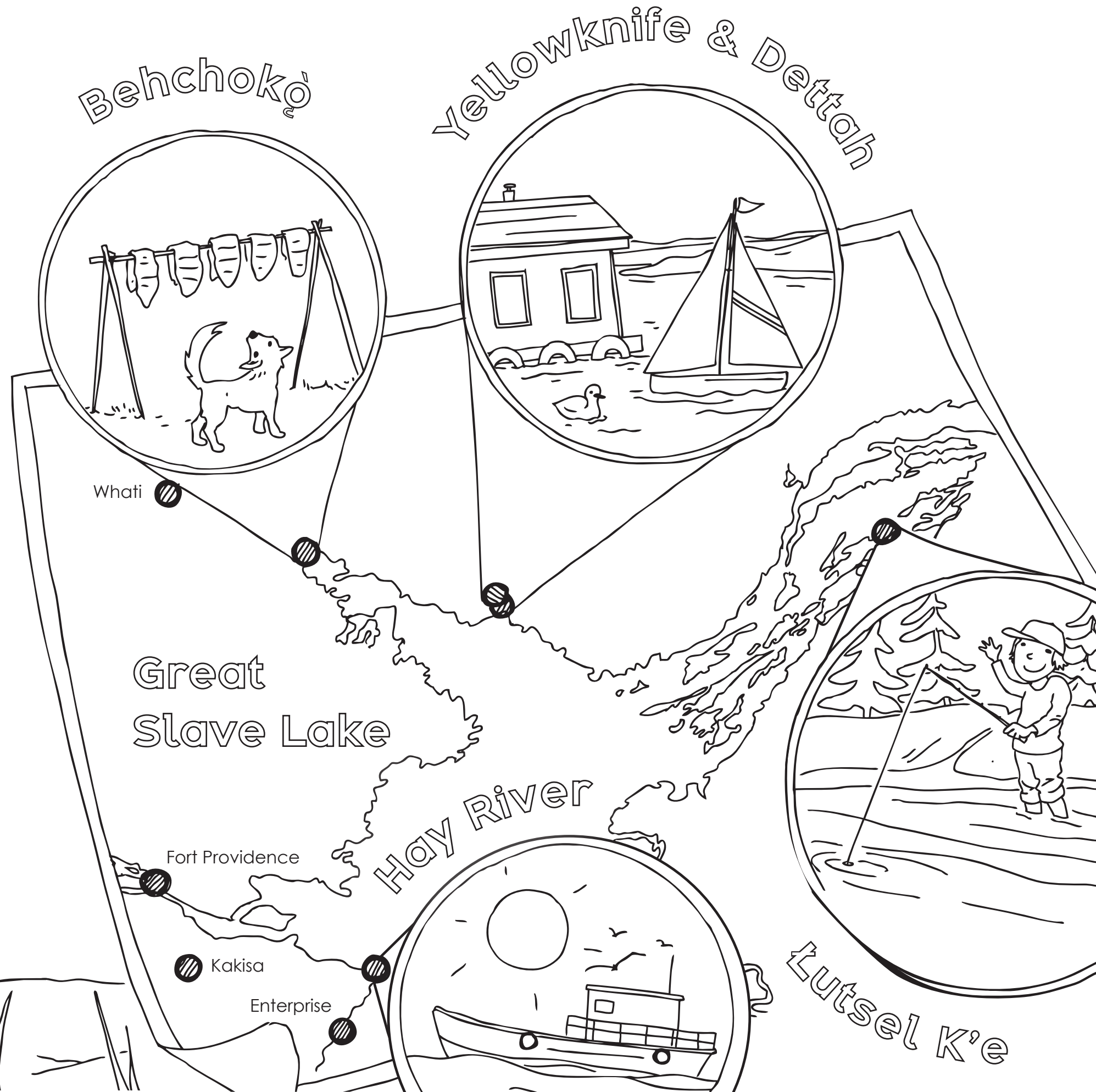
Pepper starts her journey in Fort Smith

Pepper is mesmerized by the rapids on the Slave River and the kayakers who play in them. She stops to watch but the pelicans chase her away.



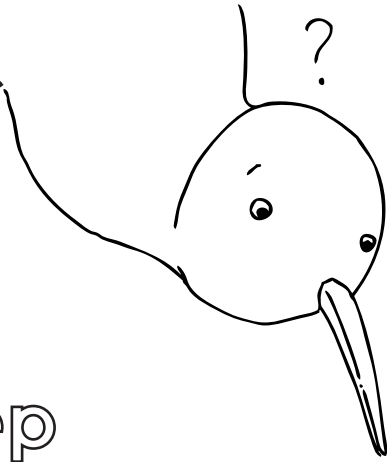
Pepper arrives at Great Slave Lake!

She has heard about all the things to see here so she flies around the lake and visits Fort Resolution, Łutsel K'e, Behchokò, Yellowknife & Dettah and Hay River.



Fish Scrabble

As she travels, Pepper makes lots of fishy friends. She often has a hard time remembering their names. Can you help her unscramble their names?



① eagtr eohnntrr kiep

② nnncuio

③ iccart hrac

④ riacct glgnyiar

⑤ klea rtout

⑥ parpedisn

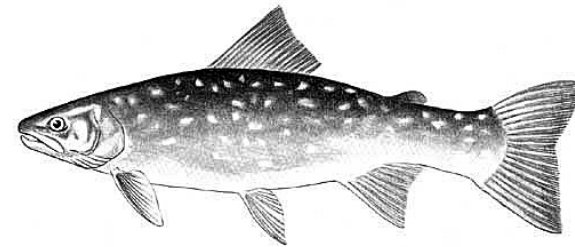
"Me and my dad went fishing near my Grandpa's cabin. I was talking and talking and not getting any fish, but when I stopped talking, I got a huge fish! I kept getting more fish after that."

– Michaela Koe, age 7

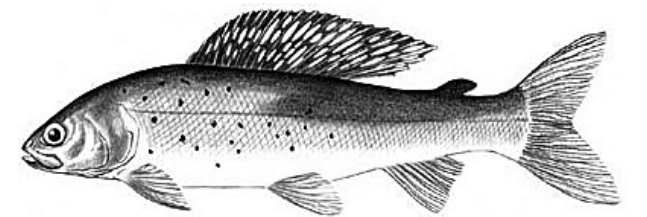


1. Inconnu 2. Arctic Char 3. Arctic Grayling
4. Great Northern Pike 5. Lake Trout 6. Sandpiper

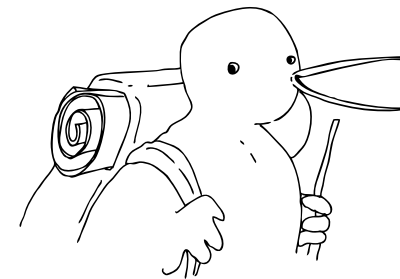
Make Your Own Fish Cards!



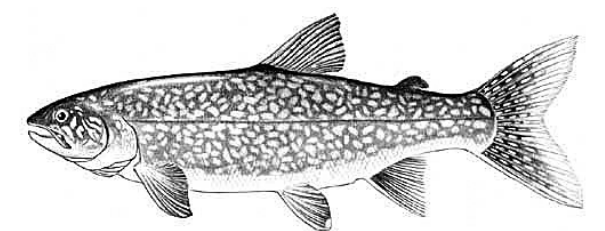
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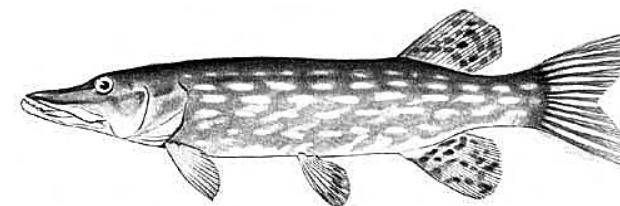
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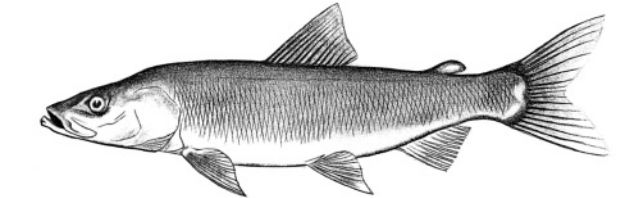
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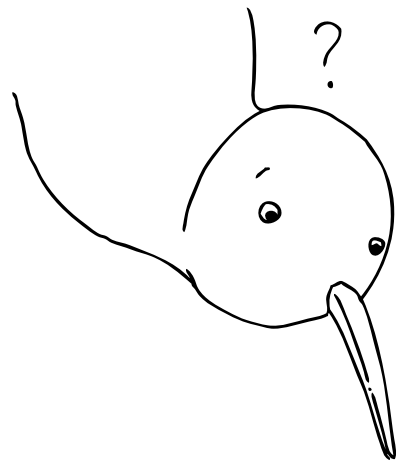
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⑤



⑥



Arctic Grayling

- Freshwater fish in the Simmons family
- Found throughout much of the Northwest Territories in lakes and rivers that are clear and cold
- Has a large and colorful dorsal fin
- Can weigh up to 2 kg (about as much as two dictionaries!)

Lake Trout

- Lives mainly in northern lakes
- The largest of the char family, up to 45 kg and be over 1 metre long
- A slow-growing deep water fish
- Ranges from light green or gray to almost black with a light-colored belly

Inconnu

- Member of the whitefish family
- Common in the Mackenzie Delta, migrates upstream to spawn in the Peel, Arctic Red and Mackenzie Rivers
- Dark back, silvery sides and large scales

Arctic Char

- Member of the salmon family
- The only freshwater fish found as far north as Ellesmere Island
- Ranges from bright red to pale pink during the year

Pepper the Sand Piper

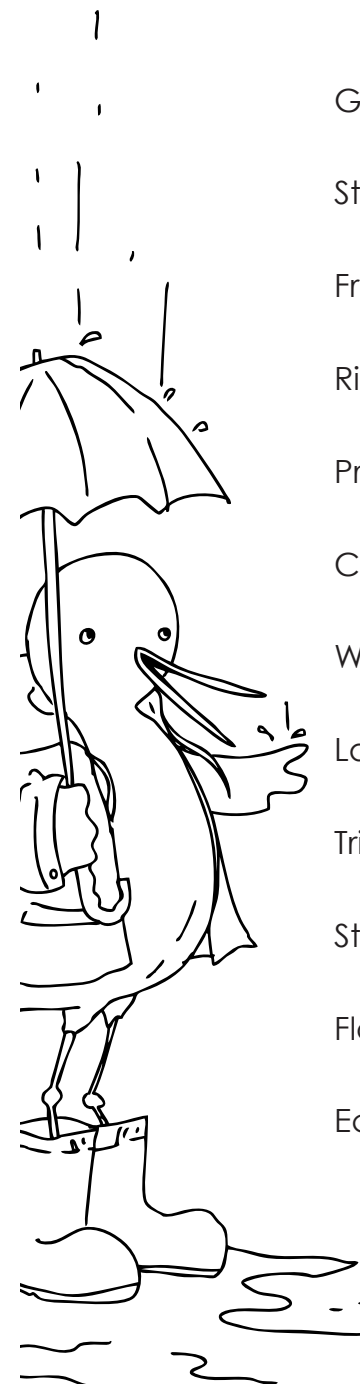
- Loves flying
- Gets confused easily
- Eats bugs, flies and mosquitoes
- Makes friends easily
- Talks a lot

Great Northern Pike (Jackfish)

- Likes warm water, slow rivers and weedy bays
- Grows to be 1.5 metres long
- Green in colour with yellow and white shading along the belly
- Has the largest geographic range of any freshwater fish

Watershed Words

Everywhere she goes, Pepper is reminded of the importance of water. Water is everywhere! Sometimes she gets mixed up. Can you help her match the watershed words to their definitions?



Groundwater

Something that dirties land, water or air and makes it dangerous

Stream

Water that cannot be seen because it is flowing underneath the ground

Freshwater

Plants and animals that live together and help each other survive

River

The movement of water

Precipitation

Water that is not salty

Contaminant

A large body of water

Watershed

Water that falls from the sky as snow or rain

Lake

A flowing, moving stream of water

Tributary

A small, steady flowing body of water

Stewardship

To care for land and water

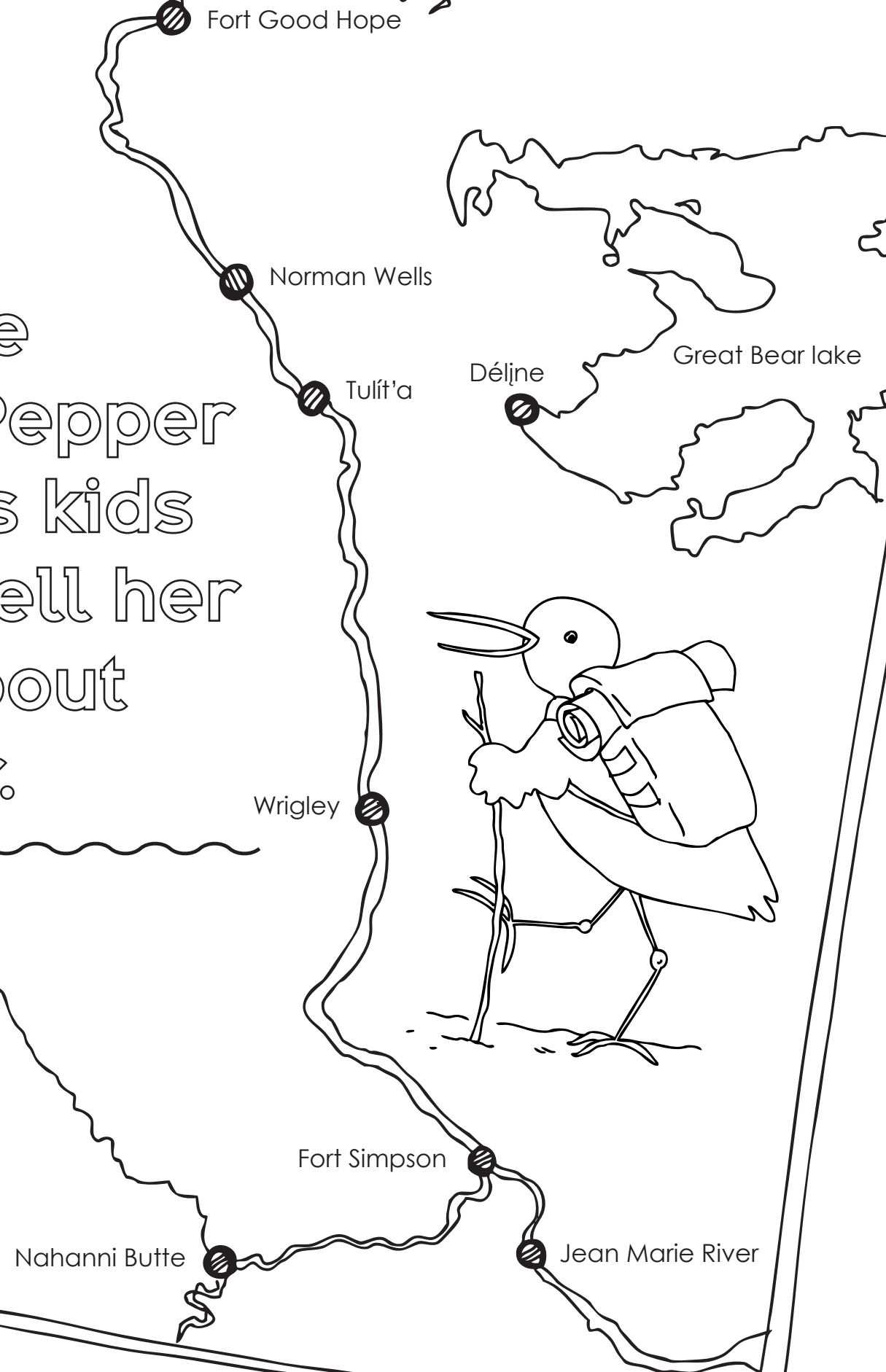
Flow

A river that flows into a bigger river

Ecosystem

An area of land where every drop of water ends up in the same lake or river.

On the
way Pepper
meets kids
who tell her
all about
water.



We went fishing and I put some hooks on my line. We were waiting and waiting. I skipped some rocks and my Mom and I took off our shoes and we went wading in the water and it was super cold.

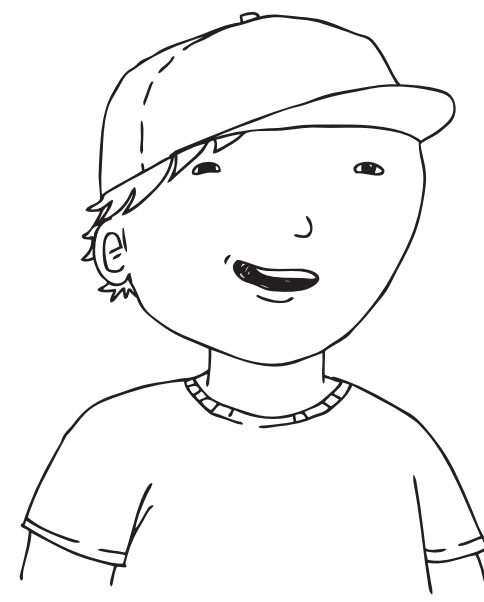
- CJ Cassian, 8.

I like the water near Fort McPherson because it makes you healthy.

- Kiana N, age 7

I went swimming with Patrick in a lake and there was tons of mud. We started throwing mud at each other and had a lot of fun.

- Ariana Keevik, 7





Help Pepper find words!

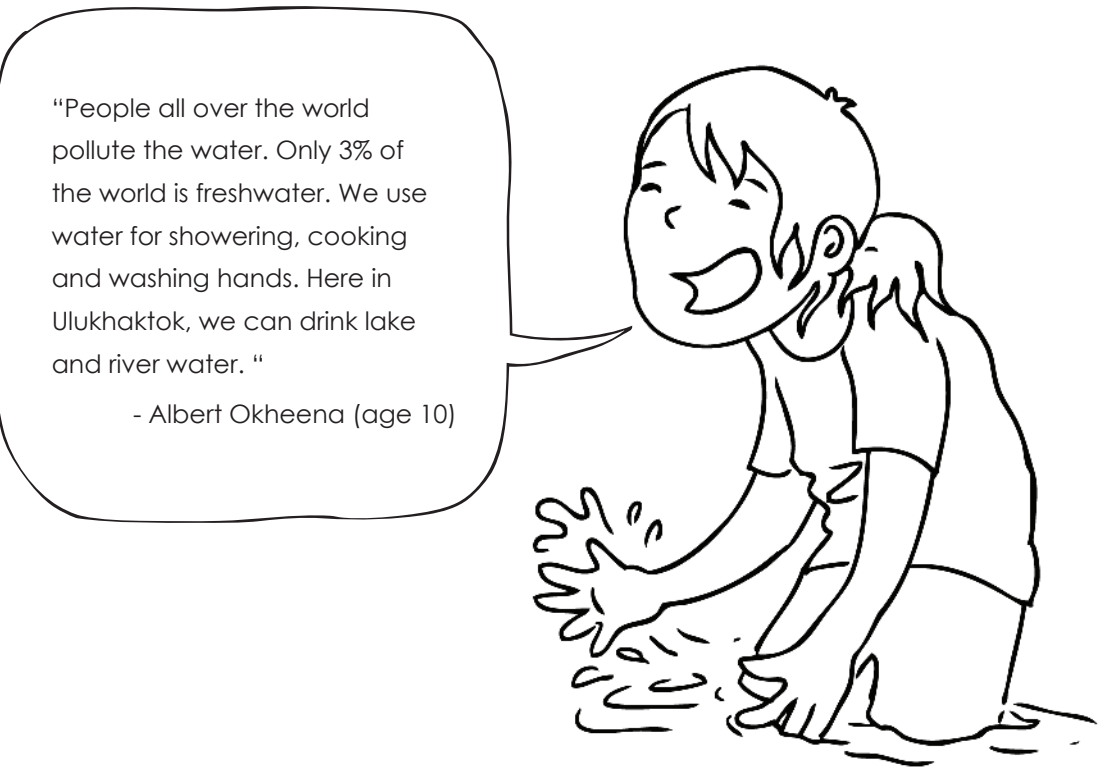
Pepper can understand why so many people love water. It gives people and animals food, drink and a place to play! Pepper thinks about water all the time now. She wants to keep it clean so that everyone can enjoy it.

Q R C N P L A K E F R E S H W A T E R
N F N F I W Y N O U M G R P A U Y A I
T R Z L C O Z L M E C I I P M N H E M
R T U O K O R N S E C O S Y S T E M C
S N S W E W H I T E F I S H U R P N G
F I G V R V I E R A C S E I S I K O I
E N I M E R L H E R O Z M P S I R N N
D F V E L D V E A C N N A X S V I E A
B U R B O T Z G M T T P B P T H V T E
H A B I T A T E Y I A C C E E A E C U
W A T E R S H E D C M P C L W B R L W
T R I B U T A R Y P I K E I A W O O I
R F E H R A I N I I N J C C R E C U N
S H O R E L I N E S A B H A D T E D C
D R I N K D B I T V N M A N S L A Z O
O E O C I E J S C Y T U R Z H A N A N
T R O U T W A T E R P I S O I N Y U N
Q A Y Z Y U Y D O P X G I U P D M Y U

Great Bear Lake

Pepper is so curious about Great Bear Lake that she flies away from the Mackenzie River to get a good look at it. Woah! It is so big!

Great Bear Lake is the deepest lake in Canada and the biggest lake in the Northwest Territories. It is 320 kilometers long. That is about as far as driving from Yellowknife to Fort Providence.



"People all over the world pollute the water. Only 3% of the world is freshwater. We use water for showering, cooking and washing hands. Here in Ulukhaktok, we can drink lake and river water. "

- Albert Okheena (age 10)

Word scramble

Put the letters in the right order to complete the sentence!

- ① The {ZMEENAKCI} is the longest river in Canada.
- ② The Mackenzie River {LOSFW} into the Arctic {NEACO}
- ③ Many {HIFS} love to swim in the Mackenzie River.
- ④ Migratory birds are born in the Mackenzie {DTLEA} and migrate south during the fall, like the {OOPWIHNG} crane, Peregrine {LNOCF A} and the {DBLA} eagle.
- ⑤ Great {RBAE} Lake is the biggest lake in the Northwest {RITROETERIS}
- ⑥ People drive on the Mackenzie River on the {CEI} roads.

1. Mackenzie 2. Flows, Ocean 3. Fish 4. Delta, Whooping, Falcon, Bald 5. Bear, Territories 6. Ice

Pepper makes friends!

Finally Pepper is getting closer to her family. She can see the Mackenzie Delta off in the distance but first she meets many more friends who tell her their favourite things about water.

"My favourite thing in the winter is going ice fishing near Inuvik. I like eating Coney. I make a hole with an auger. It takes a lot of work to make a hole. There are mostly two layers of ice. Some of the fish are very big and it's hard to pull them up."

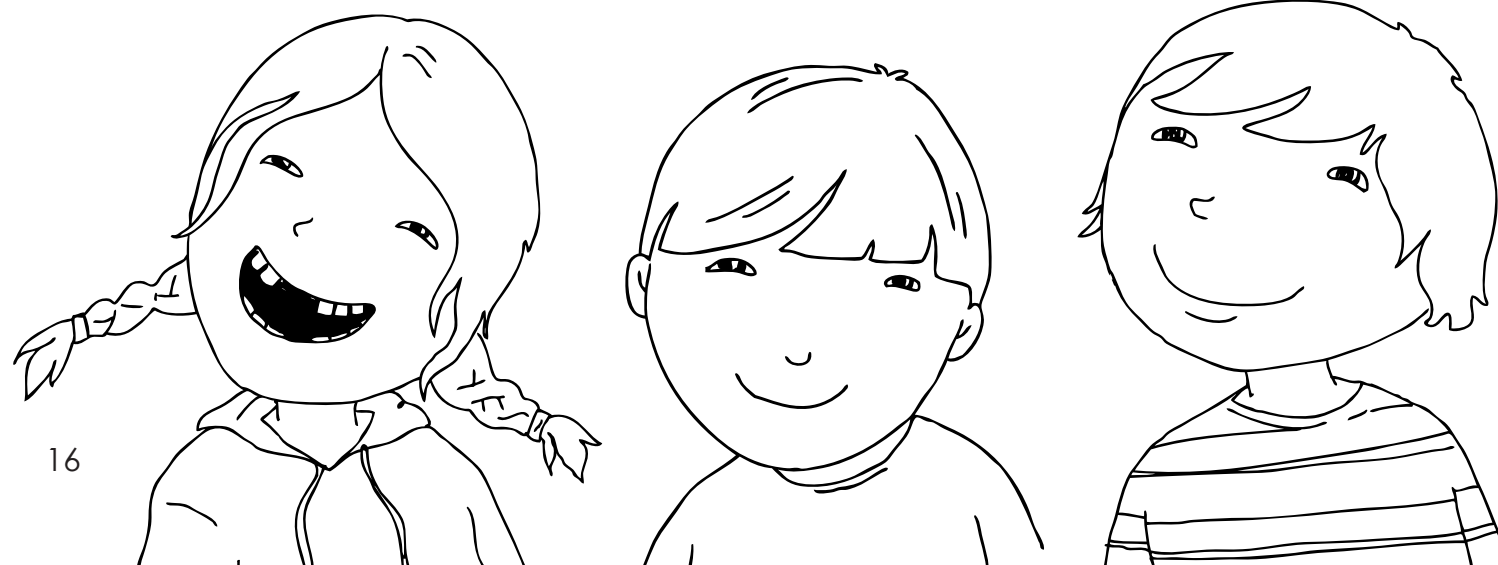
- Adriana H. 8

"Water is fresh in Inuvik, so fresh you would just get it with a cup."

- Justin Rogers 8

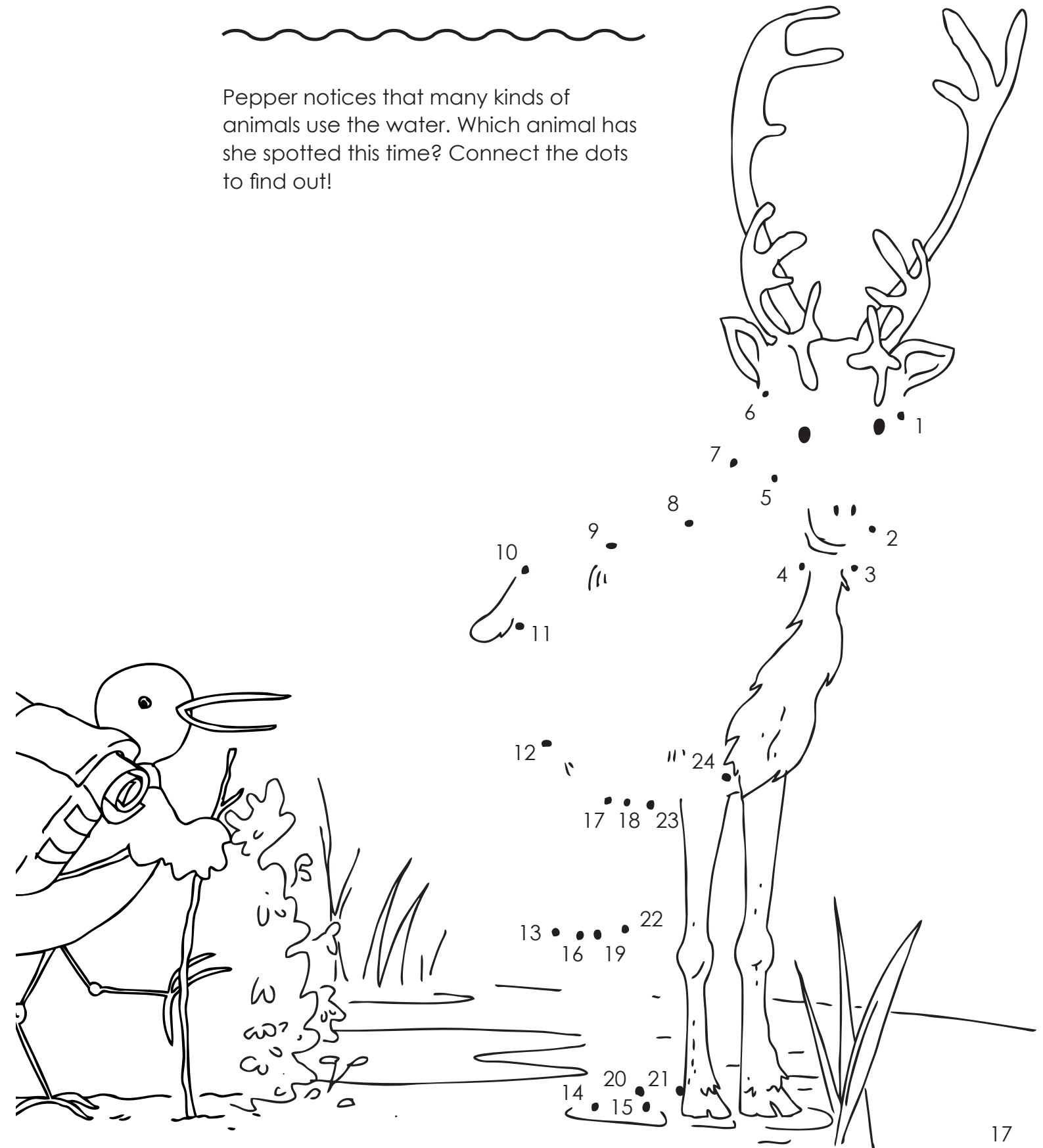
"The Mackenzie River travels all over the Northwest Territories. If a drop of water goes in it, it goes all the way to Inuvik."

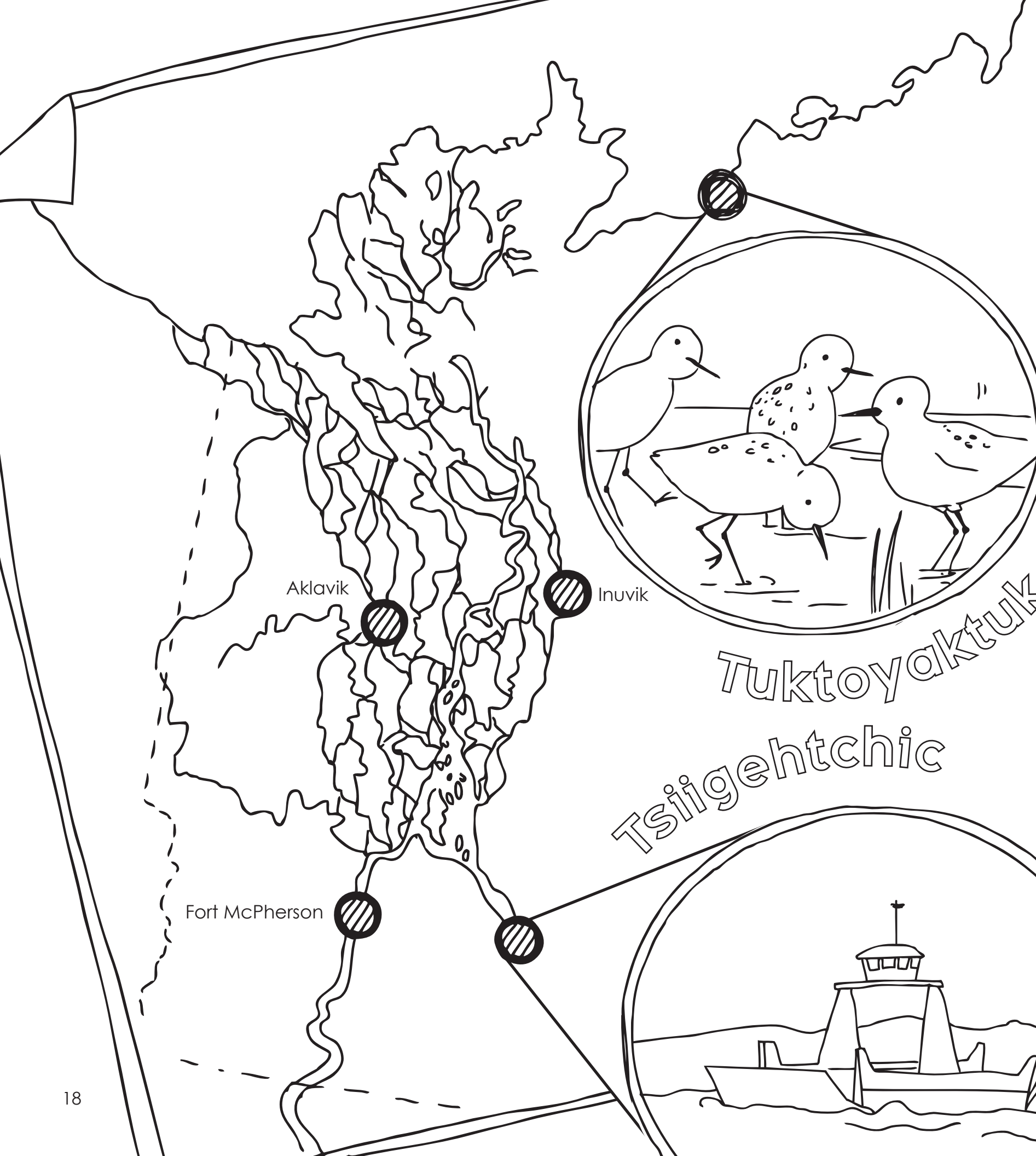
- Livia Miychener 8



Connect the Dots

Pepper notices that many kinds of animals use the water. Which animal has she spotted this time? Connect the dots to find out!





Pepper finds her family!

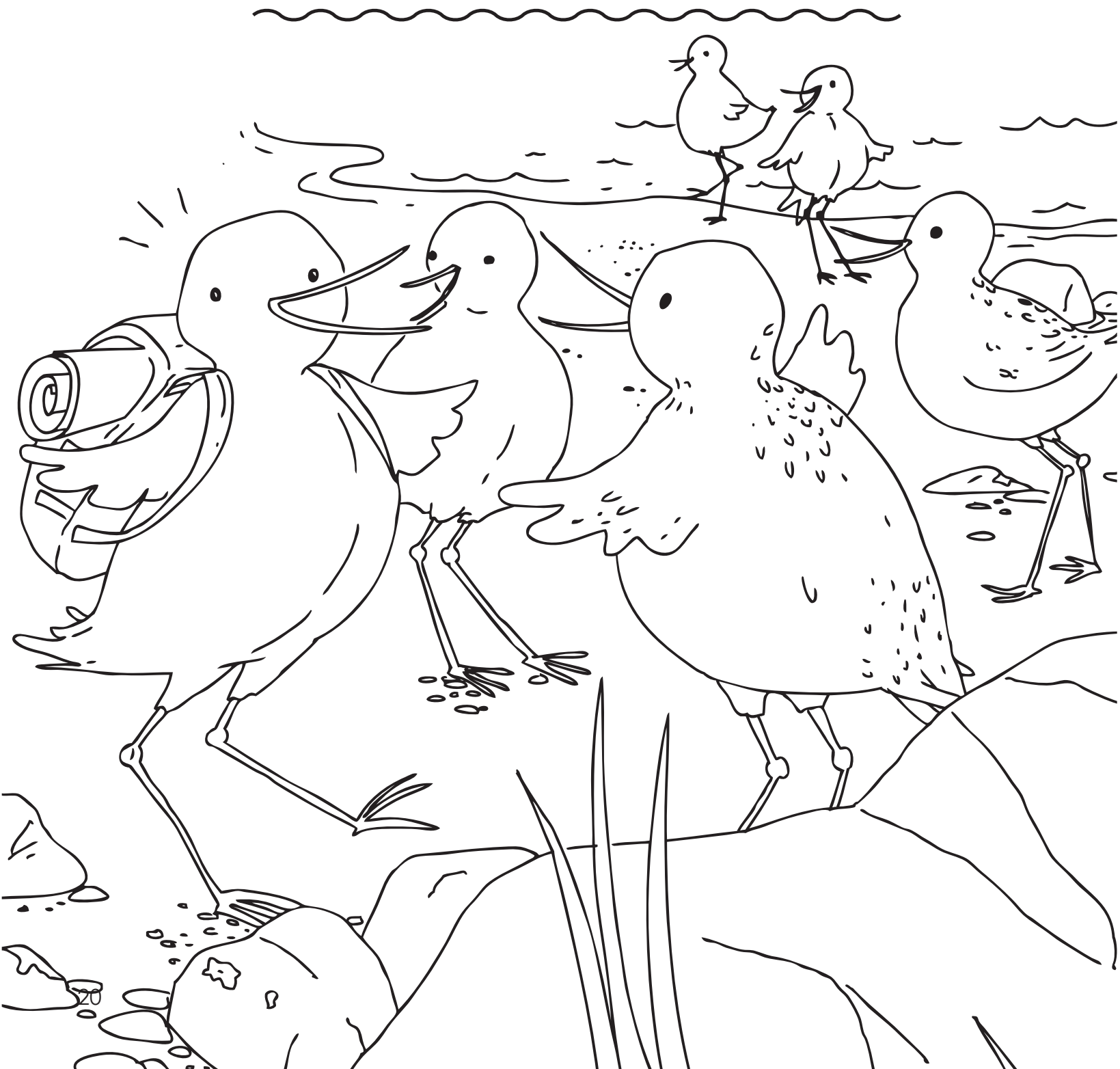
Finally, Pepper has made it to the end of the mighty Mackenzie River. She sees her family along the shore in Tuktoyaktuk. They are so happy to find her safe and sound. There they spend the summer enjoying the warmth of the northern sun and eating lots of insects that they find in the shallow ocean water.

"Once, me and my daduk were at the ocean side. I was helping get some fish out of a gillnet. Then my daduk told me to look, he said he saw beluga whales. I looked, I thought it was whitecaps. But I looked closer, than I saw that there were beluga whales."

- Allison R (age 9)



Thanks for helping pepper get home!



Answers

Page 9, Answers for Watershed Word Association:
 Contaminant: something that dirties land, water or air and makes it dangerous / Groundwater: Something that dirties land, water or air and makes it dangerous / Ecosystem: relationships between plants and animals that need each other to survive / Flow: the movement of water / Freshwater: water that is not salty / Lake: a large body of water / Precipitation: water that falls from the sky as snow or rain / River: a flowing, moving stream of water / Stream: a small, steady flowing body of water / Stewardship: to care for land and water / Tributary: a river that flows into a bigger river / Watershed: an area of land where every drop of water ends up in the same lake or river.

Page 12, Water Word Search:

Q	R	C	N	P	L	A	K	E	F	R	E	S	H	W	A	T	E	R
N	F	N	F	I	W	Y	N	O	U	M	G	R	P	A	U	Y	A	I
T	R	Z	L	C	O	Z	L	M	E	C	I	I	P	M	N	H	E	M
R	T	U	O	K	O	R	N	S	E	C	O	S	Y	S	T	E	M	C
S	N	S	W	E	W	H	I	T	E	F	I	S	H	U	R	P	N	G
F	I	G	V	R	V	I	E	R	A	C	S	E	I	S	I	K	O	I
E	N	I	M	E	R	L	H	E	R	O	Z	M	P	S	I	R	N	N
D	F	V	E	L	D	V	E	A	C	N	N	A	X	S	V	I	E	A
B	U	R	B	O	T	Z	G	M	T	T	P	B	P	T	H	V	T	E
H	A	B	I	T	A	T	E	Y	I	A	C	C	E	E	A	E	C	U
W	A	T	E	R	S	H	E	D	C	M	P	C	L	W	B	R	L	W
T	R	I	B	U	T	A	R	Y	P	I	K	E	I	A	W	O	O	I
R	F	E	H	R	A	I	N	I	N	J	C	C	R	E	C	U	N	
S	H	O	R	E	L	I	N	E	S	A	B	H	A	D	T	E	D	C
D	R	I	N	K	D	B	I	T	V	N	M	A	N	S	L	A	Z	O
O	E	O	C	I	E	J	S	C	Y	T	U	R	Z	H	A	N	A	N
T	R	O	U	T	W	A	T	E	R	P	I	S	O	I	N	Y	U	N
Q	A	Y	Z	Y	U	Y	D	O	P	X	G	I	U	P	D	M	Y	U

Pepper & the Mighty Mackenzie

Join Pepper the Sand Piper as she explores the mighty Mackenzie River. The whole family can read along with Pepper's adventures as she follows the flow of the Mackenzie River north to where her family is nesting on the shores of the Arctic ocean. Through her journey, you will meet lots of friends and find many fun games - colouring, word searches, connect the dots and more!

An education project in support of the Northwest Territories Water Stewardship Strategy. Produced and written by Ecology North with support from the Government of the Northwest Territories. Designed by Jazmine Gardner, illustrations by Alison McCreesh.

For more information on Northwest Territories water and the water stewardship strategy, visit <http://nwtwaterstewardship.ca>

Ecology North is a charitable, non-profit organization based in Northwest Territories formed in 1971 to support sound environmental decision-making on an individual, community and regional level.

Through education, research, and project facilitation, Ecology North works with communities throughout Northwest Territories on topics related to water stewardship, food sustainability, waste reduction, and climate change adaptation and mitigation.

More information about Ecology North can be found at: www.ecologynorth.ca.

