

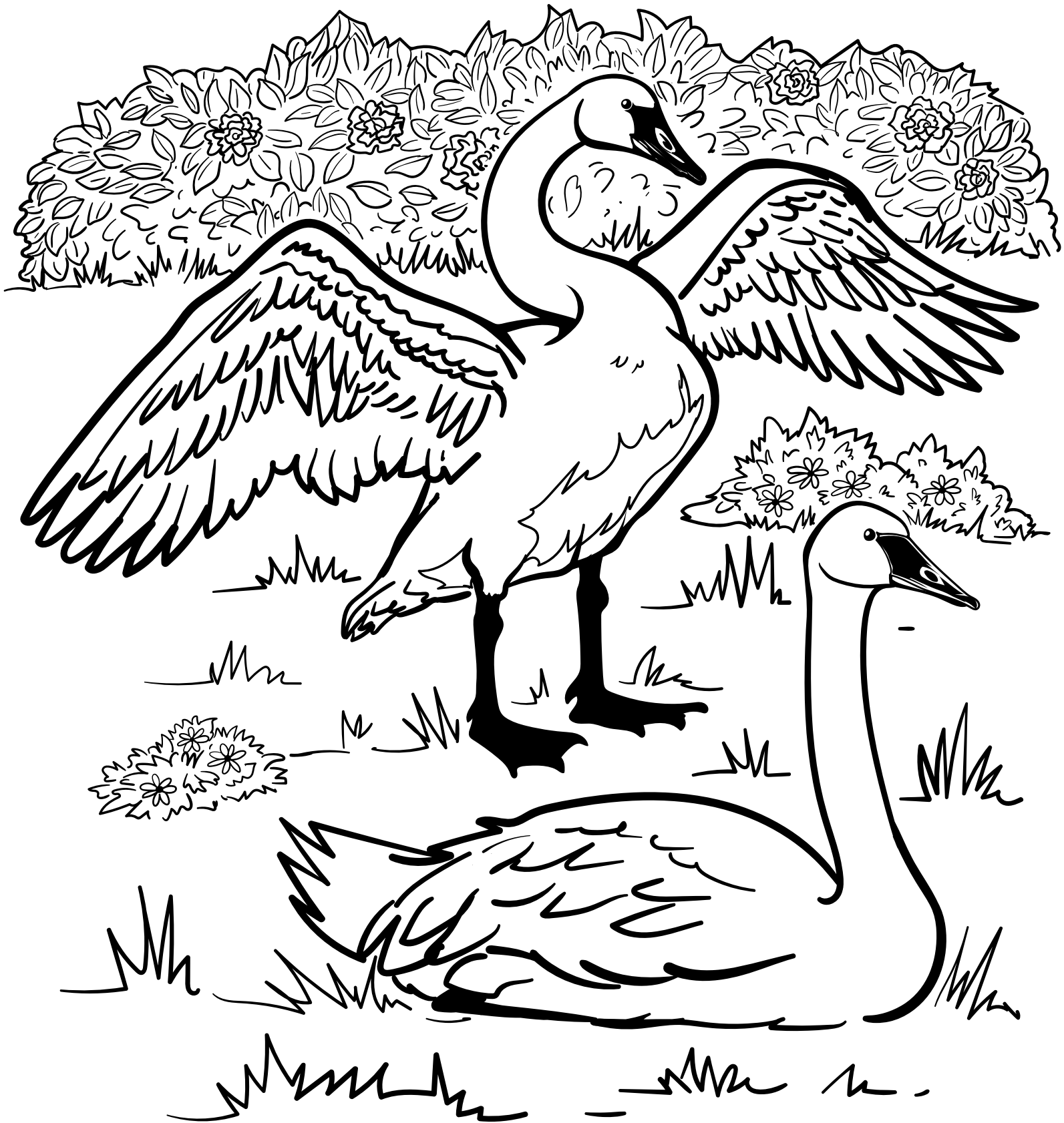
Trumpeter Swans

How Can I Help?



An Educational Coloring & Activity Book — 3rd-5th

Trumpeter Swans: How Can I Help?



QR codes and websites should be explored with an adult.

Friends Of Trumpeter Swans

Look for these STEM (Science, Technology, Engineering, Math) professionals throughout the book to find out more about careers associated with trumpeter swans, wetlands and their conservation.



Which Bird Is A Trumpeter Swan?

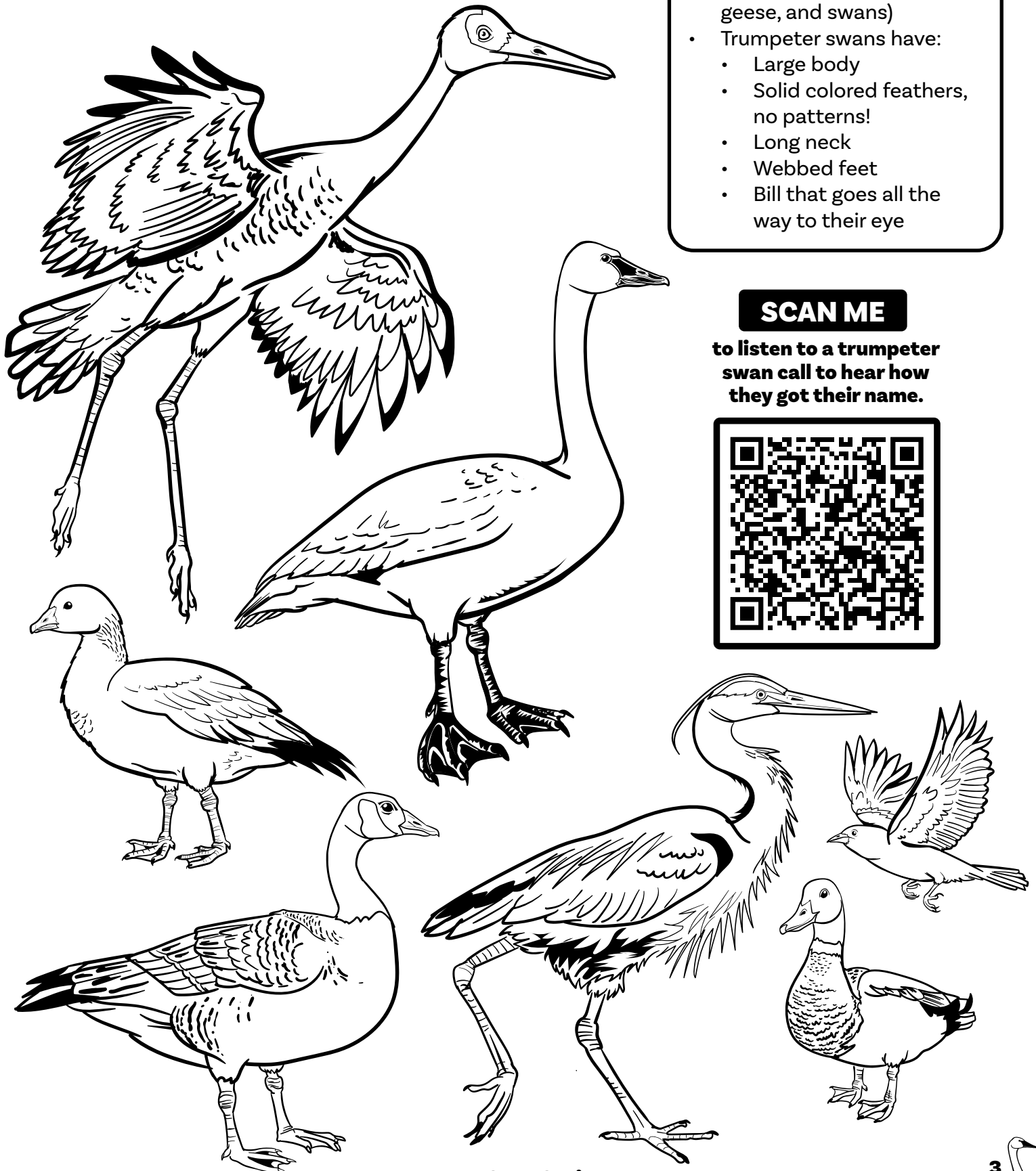
Birds come in many different shapes and sizes. Let's see if we can find the trumpeter swan among these birds. When you find the trumpeter swan, circle it!

CLUES:

- Trumpeter swans are a type of waterfowl (a group of birds that include ducks, geese, and swans)
- Trumpeter swans have:
 - Large body
 - Solid colored feathers, no patterns!
 - Long neck
 - Webbed feet
 - Bill that goes all the way to their eye

SCAN ME

to listen to a trumpeter swan call to hear how they got their name.



Do You Live Near Trumpeter Swans?

Trumpeter swans are found in North America. North America is made up of Canada, United States and Mexico. Find and mark where you are on the map.

Are swans found where you live? _____

If so, do they spend the summer or winter nearby?

SCAN ME

to learn where swans are located.



Swan Adaptations

1

**NICTITATING
MEMBRANE**
(3RD Eyelid)

2

**SERRATED
BILL**

3

**LONG
NECK**

4

**LAYERS OF
THICK FEATHERS**

5

**OIL
GLAND**

6

**LARGE
WEBBED
FEET**

Hi, I am an Ornithology Professor and an expert on birds. Can you figure out how the swan adaptations help them survive? Write the adaptation number next to how they are used in my notebook.



— Helps the swan swim and keep eggs warm

— Helps the swan eat

— Helps the swan see underwater

— Helps the swan's feathers stay waterproof

— Helps reach deep underwater

— Helps the swan stay warm and dry

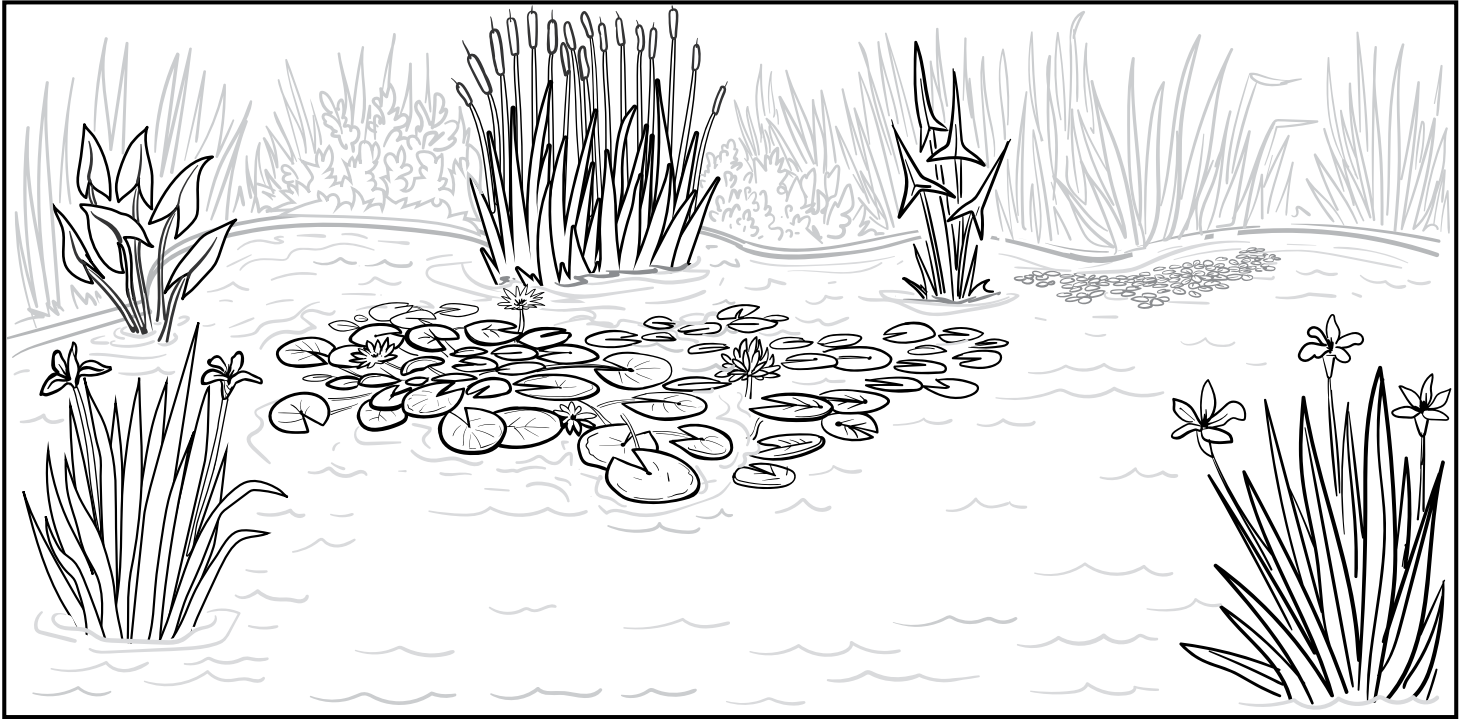
SCAN ME

to watch a trumpeter swan preen its feathers. Watch closely as it rubs its bill on the oil gland and then rubs the oil on its feathers.



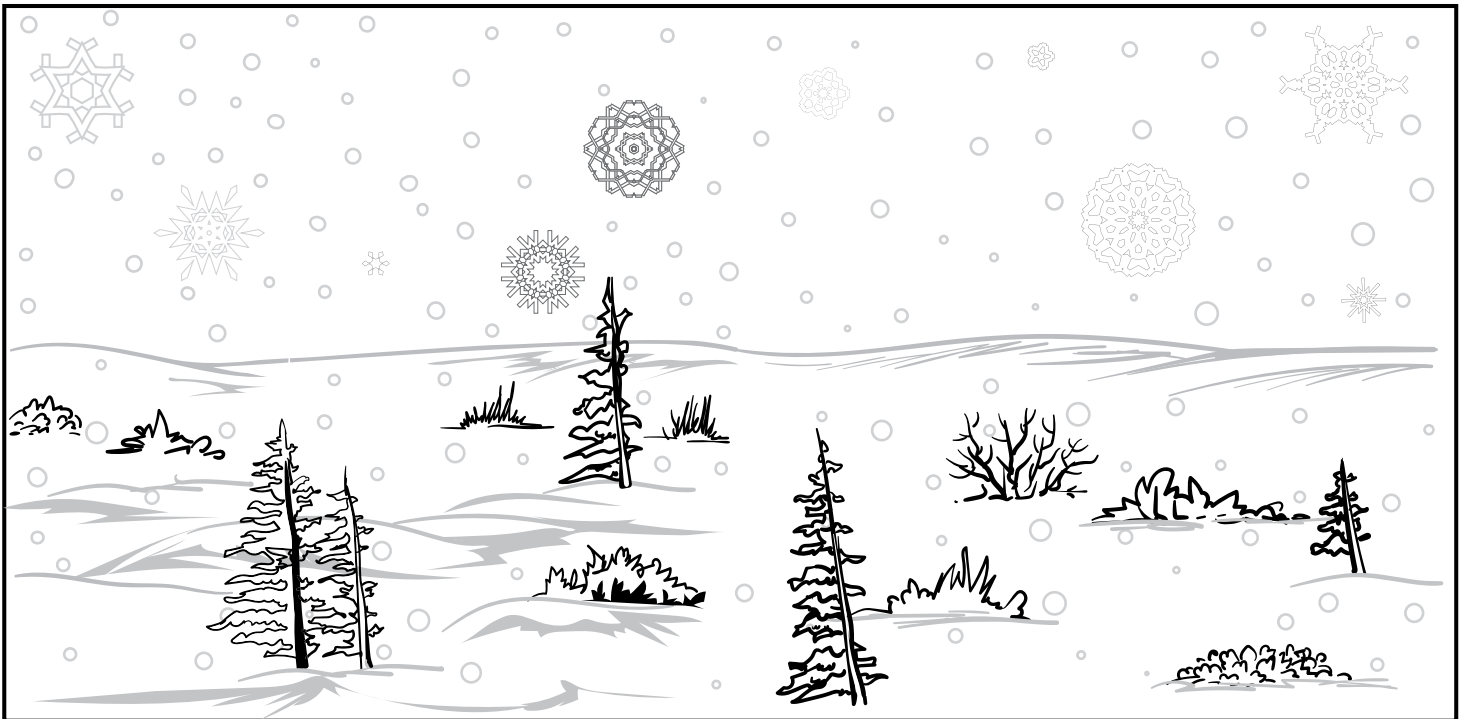
Swan Habitats

Habitat is the natural place that an animal lives. Which of these habitats is the right one for trumpeter swans? Color each of these habitats and draw a trumpeter swan in the correct habitat.



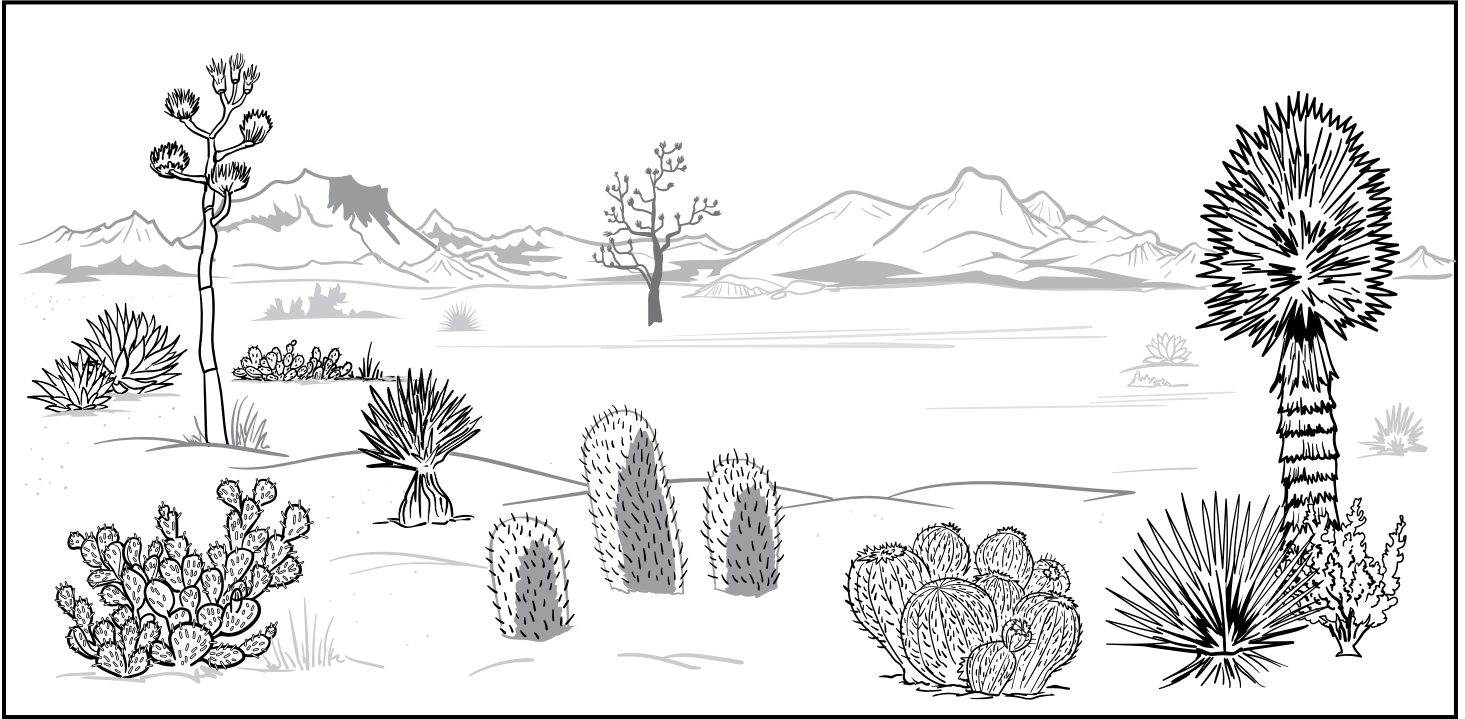
WETLAND

Land that has a wet and spongy soil, typically a transitional area between dry land and open water (like a pond, lake or river).



TUNDRA

Area of land in the Arctic that is flat and nearly treeless, where the ground is permanently frozen.



DESERT

Area of land that receives little or no rain and has sparse vegetation.



RAINFOREST

Land that receives large amounts of rain and is covered in dense forest vegetation.

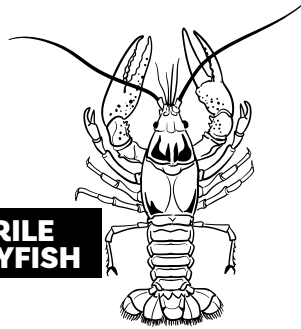
Build A Wetland Food Web

The plants and animals found in a wetland are tied together through food chains. A plant or animal can be in more than one food chain. When this happens, you make a food web.

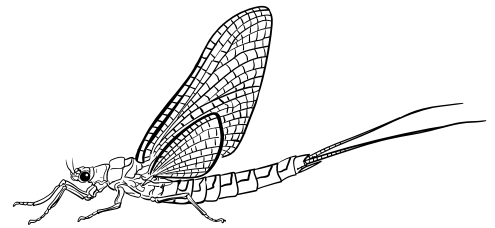
In the wetland below, make as many connections as you can between animals by drawing an arrow from a plant or animal to the animal that eats it. Make as many food chains as you can to make a food web.



**NORTH AMERICAN
RIVER OTTER**



**VIRILE
CRAYFISH**



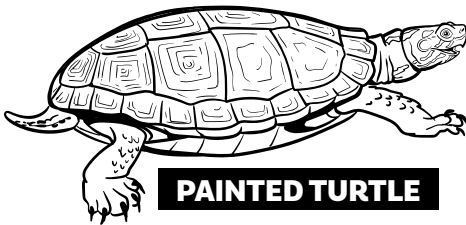
MAYFLY



WATERWEED



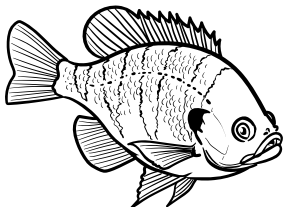
COMMON GARTER SNAKE



PAINTED TURTLE



WAPATO



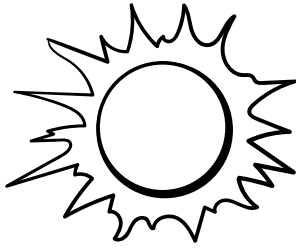
BLUEGILL



BALD EAGLE



**ACUTE
BLADDER SNAIL**



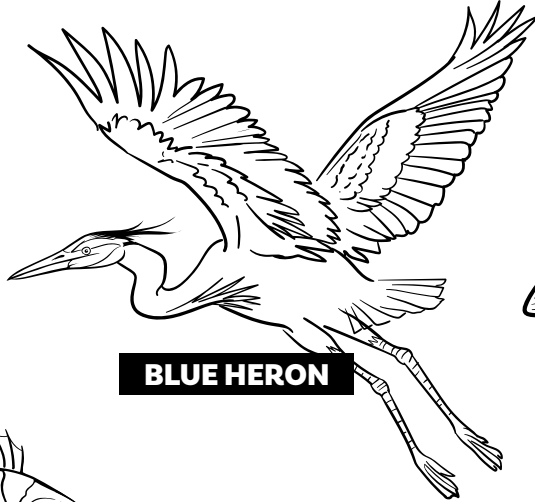
SUN



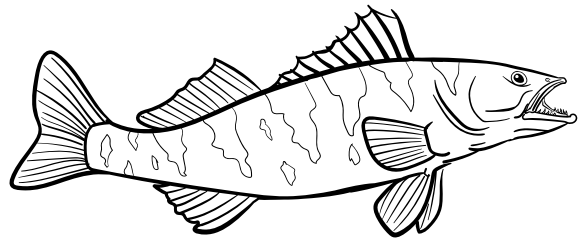
TRUMPETER SWAN



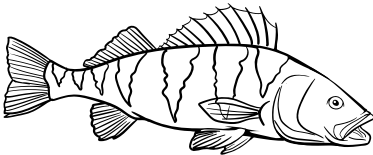
ALGAE



BLUE HERON



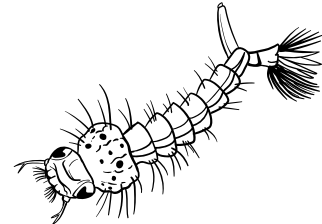
WALLEYE



YELLOW PERCH



FATHEAD MINNOW



MOSQUITO LARVAE



NORTHERN RACCOON



DUCKWEED

SCAN ME

to find out how swans forage for food. What parts of their bodies help them? What are the baby swans or cygnets eating?



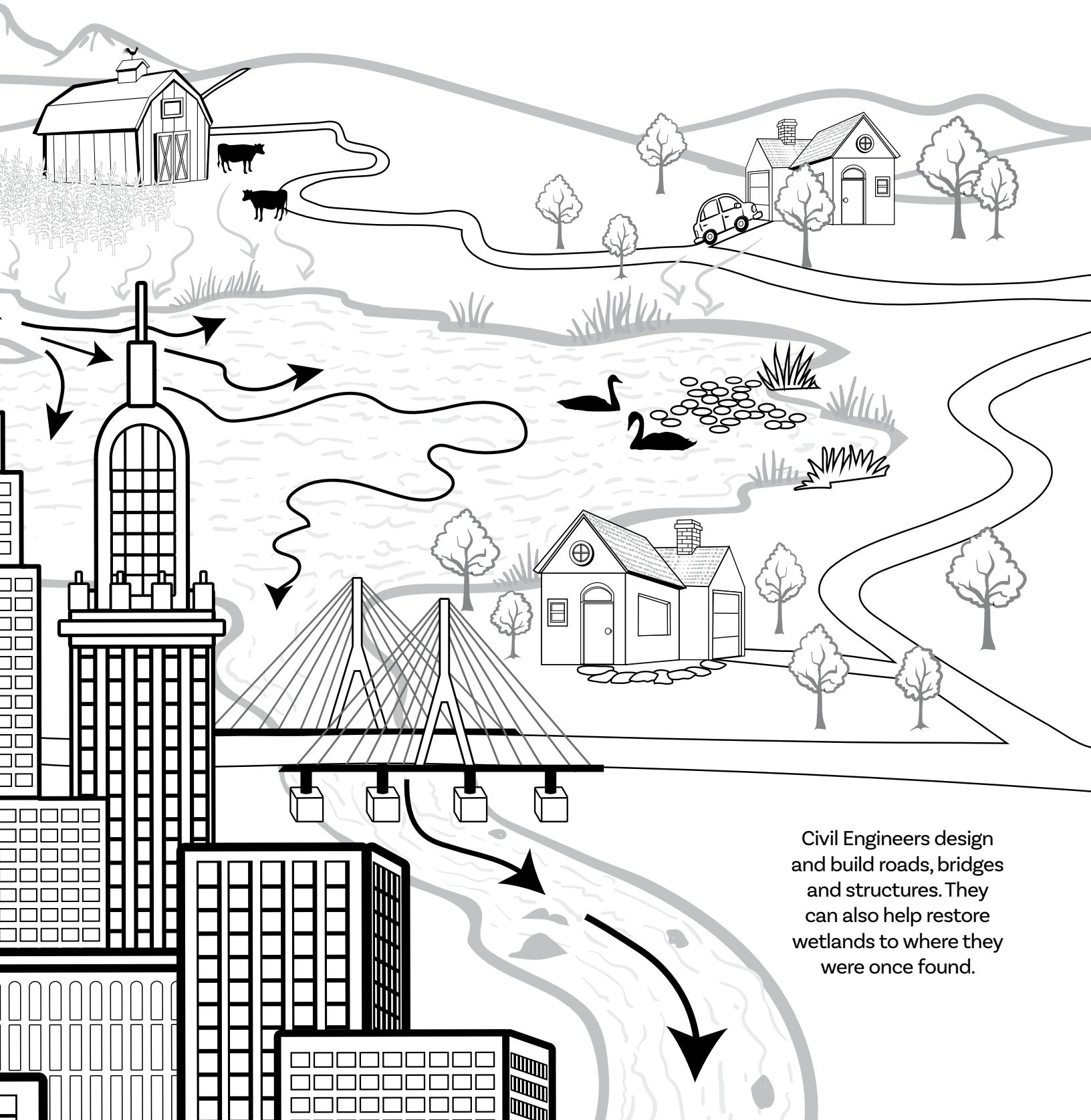
NORTHERN LEOPARD FROG & TADPOLES

NOTE: animals not actual size



Wetlands Are Helpful

Color the water blue and follow the arrows to see where the water flows.



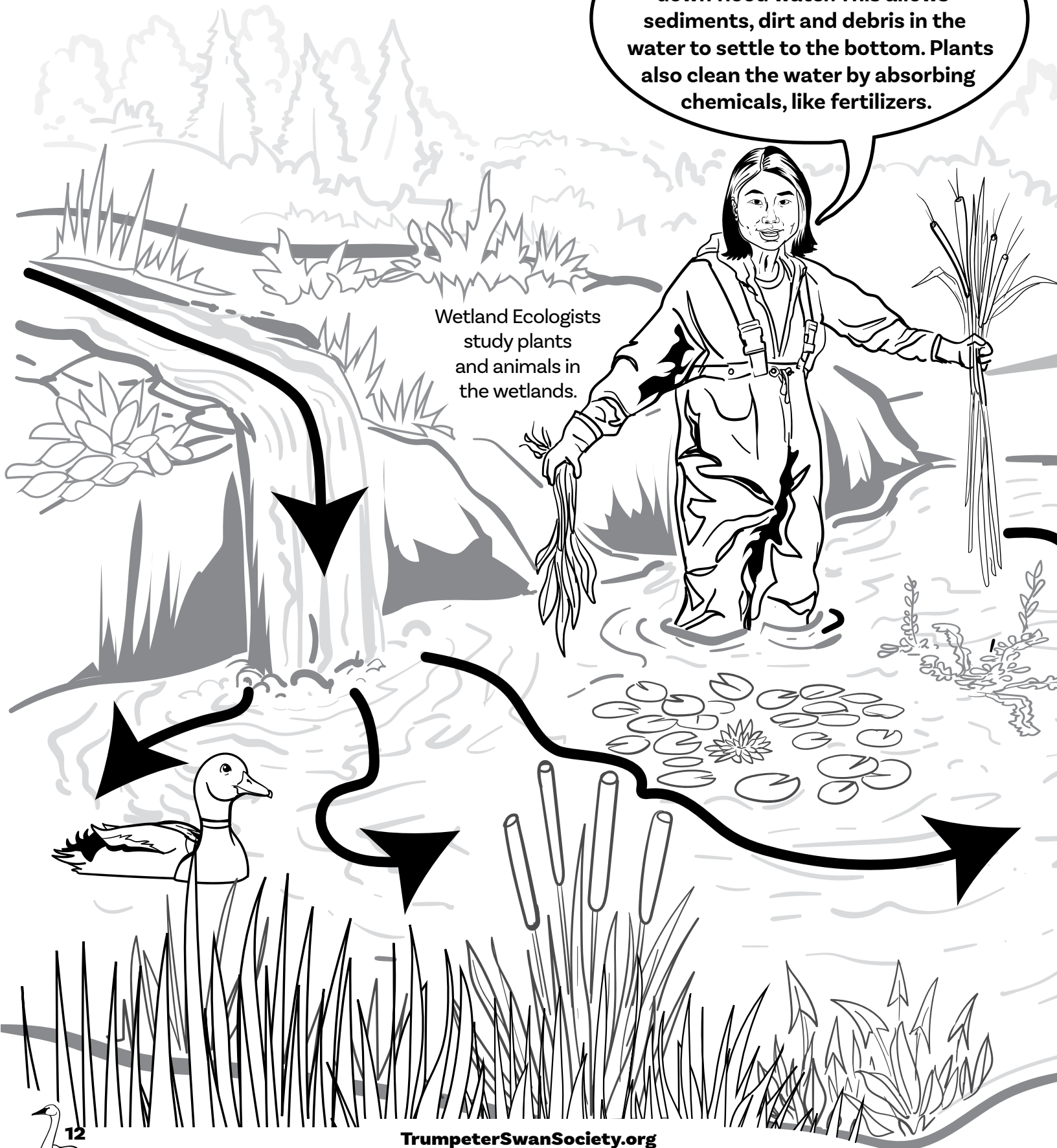
Civil Engineers design and build roads, bridges and structures. They can also help restore wetlands to where they were once found.

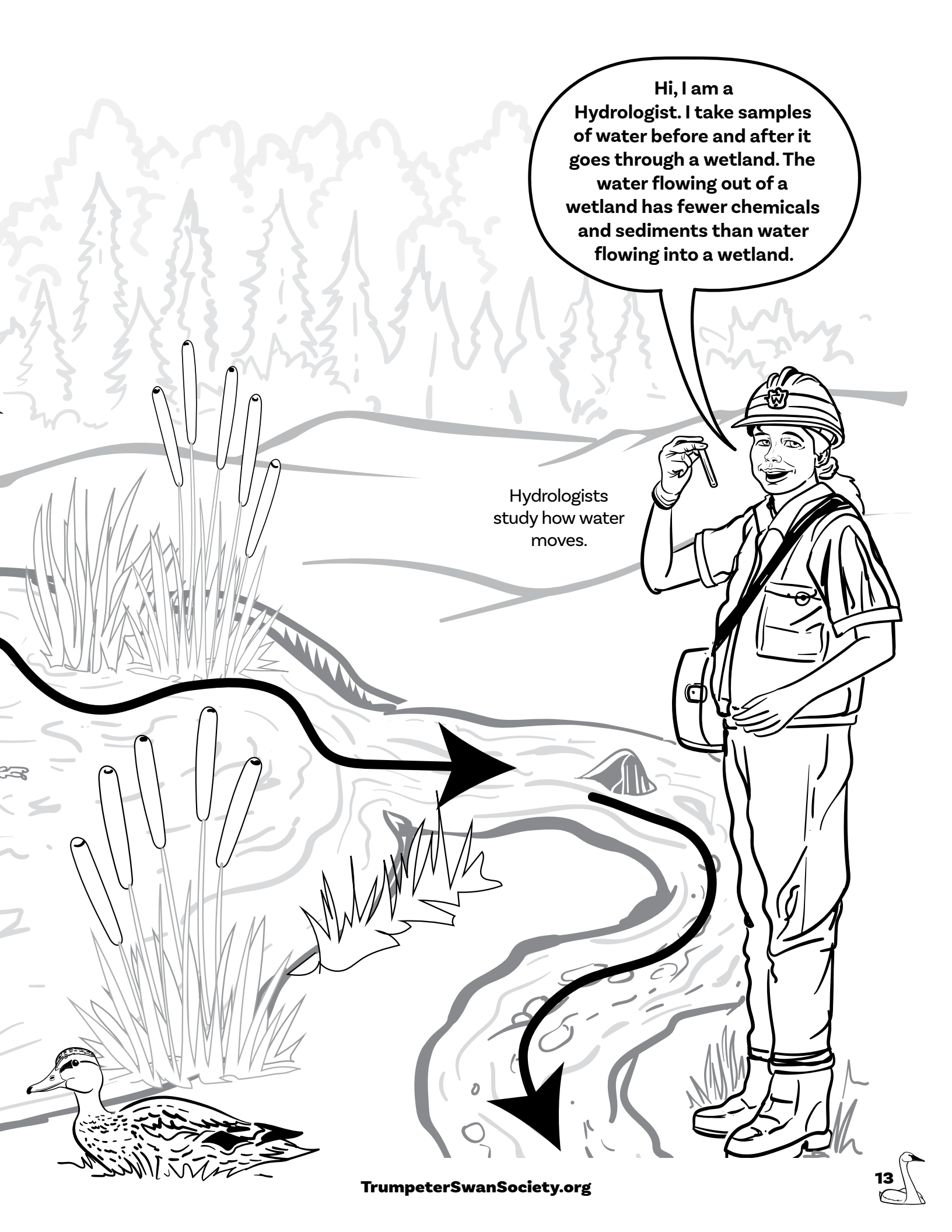
How Wetlands Work

Color the water blue and follow the arrows to see where the water flows.

Hi, I am a Wetland Ecologist.
The plants in a wetland slow down flood water. This allows sediments, dirt and debris in the water to settle to the bottom. Plants also clean the water by absorbing chemicals, like fertilizers.

Wetland Ecologists study plants and animals in the wetlands.





Hi, I am a
Hydrologist. I take samples
of water before and after it
goes through a wetland. The
water flowing out of a
wetland has fewer chemicals
and sediments than water
flowing into a wetland.

Hydrologists
study how water
moves.

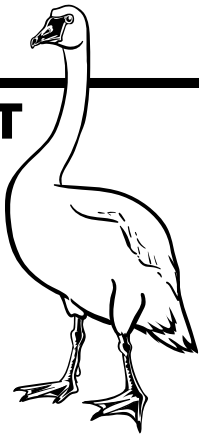


Maze of Dangers

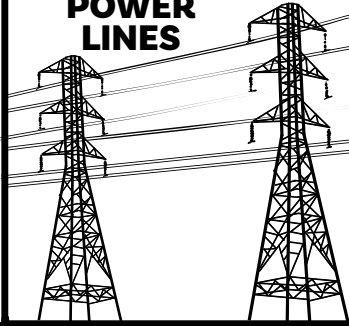
Help the Trumpeter Swan find its way to a safe habitat while avoiding threats along the way.

Hello, I am a Wildlife Rehabilitator, and my friend is a Veterinarian, or animal doctor. We work together to help sick or injured wildlife, like trumpeter swans. Hurt or sick animals can be brought to us so we can help.

START



**THREAT
POWER
LINES**



THREAT



**THREAT
FISHING
LINES & LEAD
TACKLE**

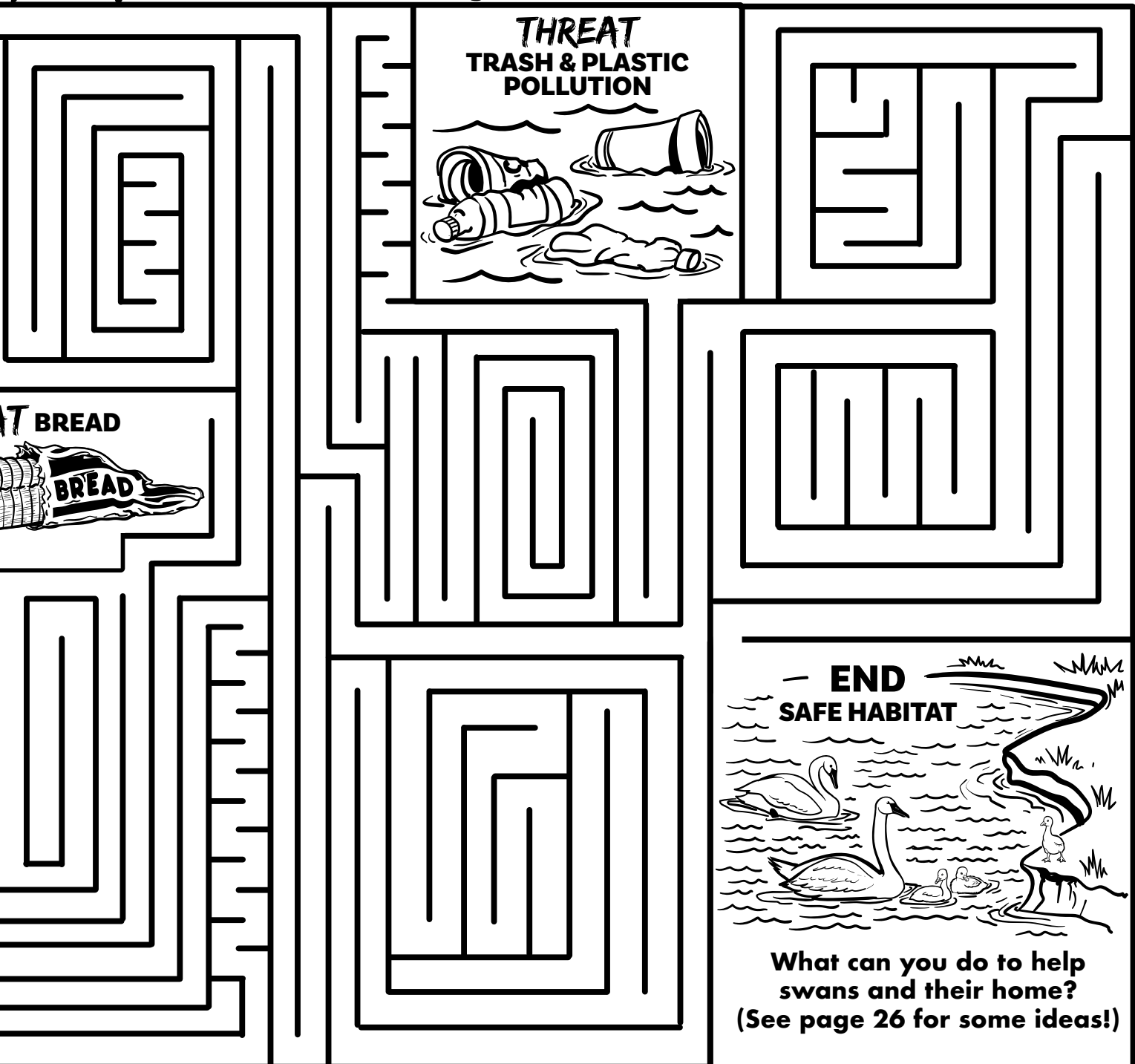


**THREAT
HABITAT
DESTRUCTION**





We love it when an animal gets well enough to go back into the wild. Sometimes a veterinarian cannot fix all an animal's issues. When this happens, we find it a place to live where humans can help care for it, like a nature center, zoo, or sanctuary.



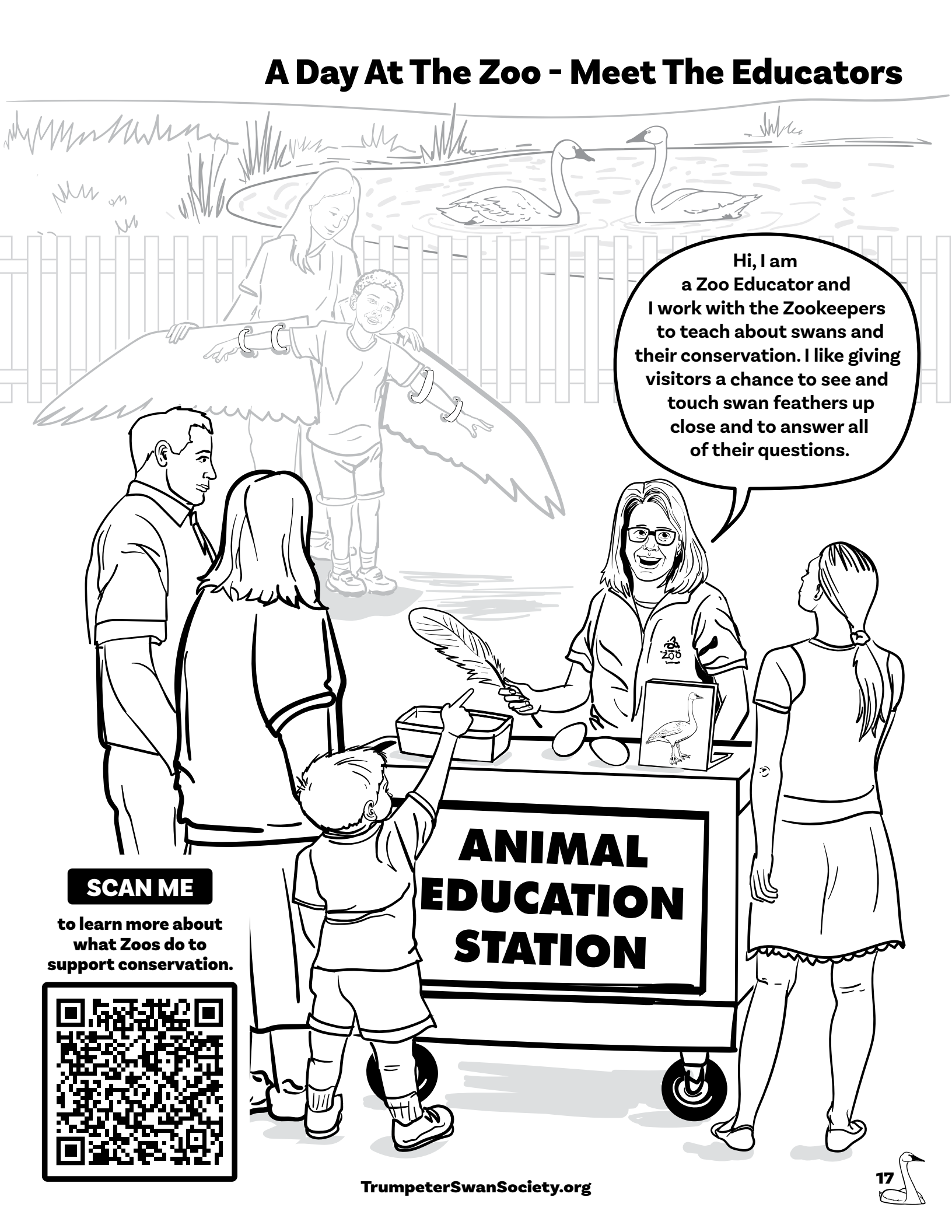
A Day At The Zoo - Meet The Zookeepers

Hi, I am a Zookeeper and I care for the trumpeter swan pair at the zoo. Our female swan hatched at another zoo. Our male swan was born in the wild, but was injured when he flew into a power line and could not be released back into the wild due to his injuries.

Our swan pair have babies, called cygnets, every spring. We work with other conservation groups to release the swans hatched at the zoo into the wild. When you come to the zoo you help support these animals here and in the wild.



A Day At The Zoo - Meet The Educators



Hi, I am
a Zoo Educator and
I work with the Zookeepers
to teach about swans and
their conservation. I like giving
visitors a chance to see and
touch swan feathers up
close and to answer all
of their questions.

SCAN ME

to learn more about
what Zoos do to
support conservation.



**ANIMAL
EDUCATION
STATION**



Hi, I am a Wildlife Biologist. Trumpeter swans were once very common, but by the early 1900's they were almost gone. Laws were written to protect them and programs were started to help save them. Many people and organizations came together to help. Releasing young swans into the wild has helped and now there are over 60,000 trumpeter swans in North America!

Draw yourself in the picture.
Choose your spot to watch the swans go into the water.

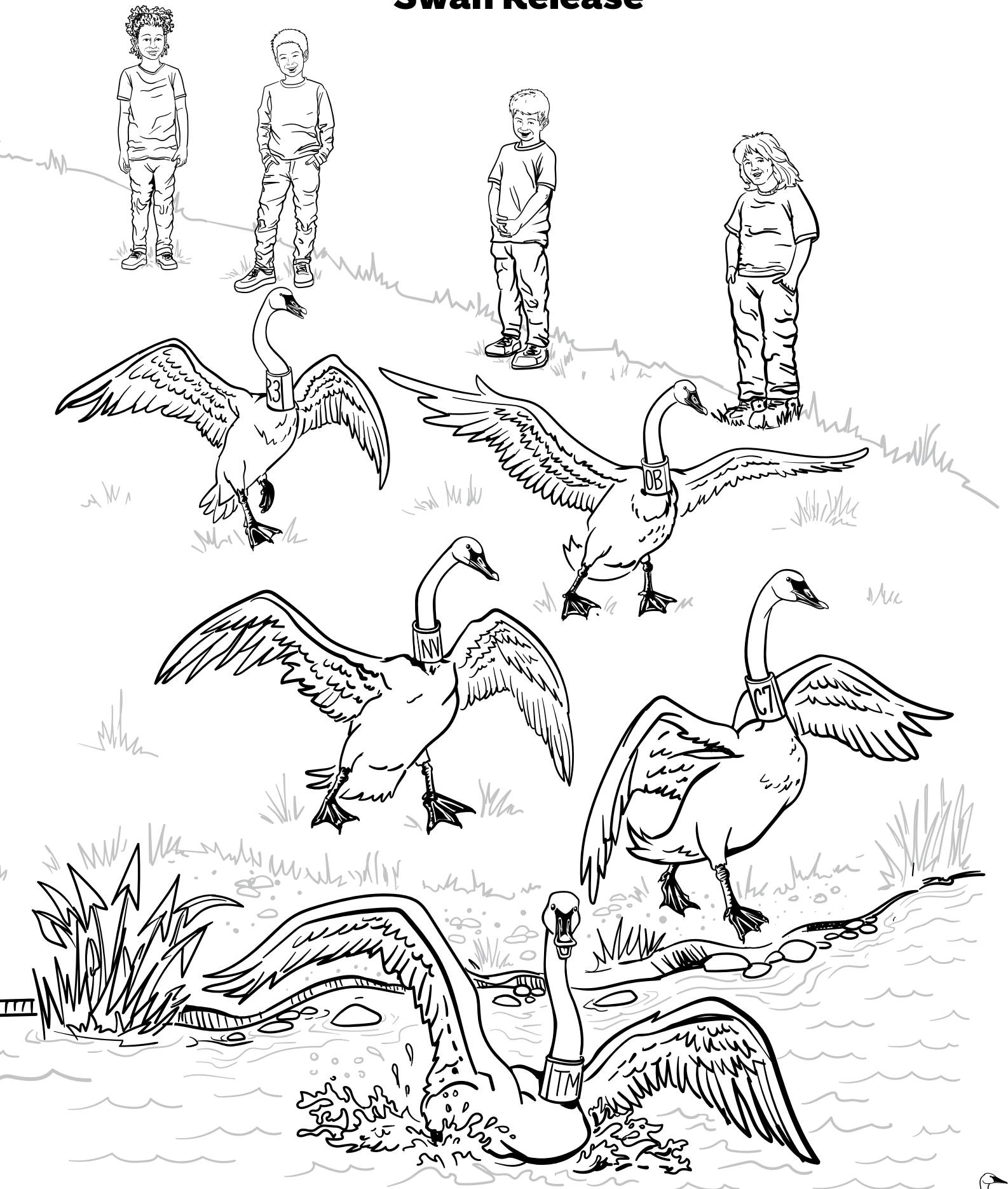


SCAN ME

to watch swans being released into the wild. The sites are carefully chosen to make sure it meets all of their needs. Swans have been released on private land, tribal land and public land.



Swan Release



Trumpeter Swan Collaring

Hi, we are
Wildlife Biologists.

Part of our job is to research
and learn about animals to
better understand their needs.

We put small GPS units on
trumpeter swans to track where
they are moving. Knowing where
swans are at different times of
the year helps us understand
how to best protect
their habitat.

Swans move south
when their water
freezes and return to the
north when it starts to
warm in the spring. This
is called migration.

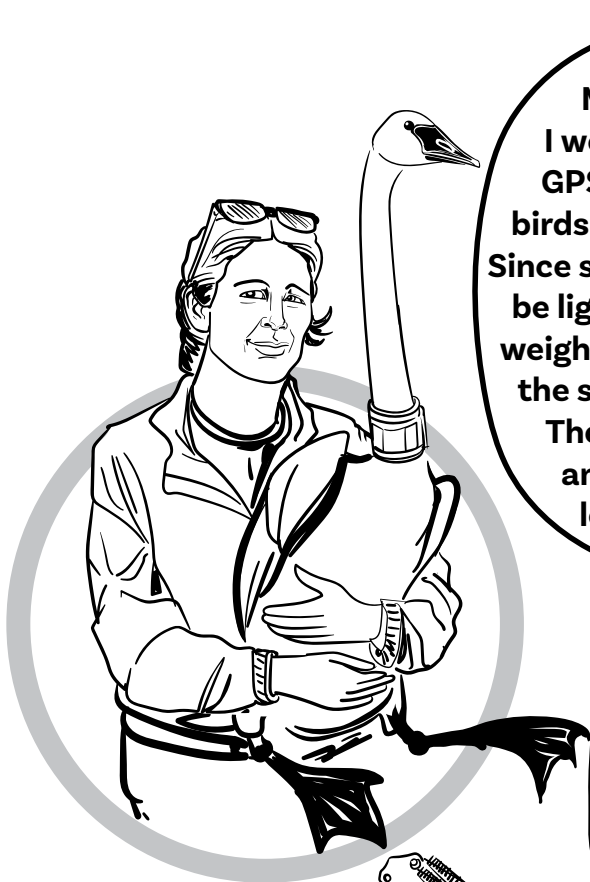
Only scientists who have
permission are allowed to
catch and collar swans and
other wild animals. You should
always keep a safe distance
from all wild animals.

SCAN ME

to follow collared
trumpeter swans
and find out where
they are moving
throughout
North America.



Who Made The Trumpeter Swan Collar?



Hello, I am a
Micro-Electrical Engineer.
I work with biologists to make
GPS units that can be worn by
birds and record their movement.
Since swans fly, their collars need to
be lightweight. The collars I make
weigh only 55 grams. (That's about
the same weight as 10 quarters!)
The collars are solar powered
and collect data on a swan's
location every 15 minutes!



SCAN ME

to check out the
collar on a swan.



The biologists use
this information to
learn where the
trumpeter swans go
when they leave their
nesting locations.



Where Did The Trumpeter Swan Go?

Using the GPS Tracking Data coordinates from the journal on the right, plot the movements of trumpeter swan #23. Mark a dot on the grid for each recorded point and then draw a line connecting all your points to reveal the route that trumpeter swan #23 took.

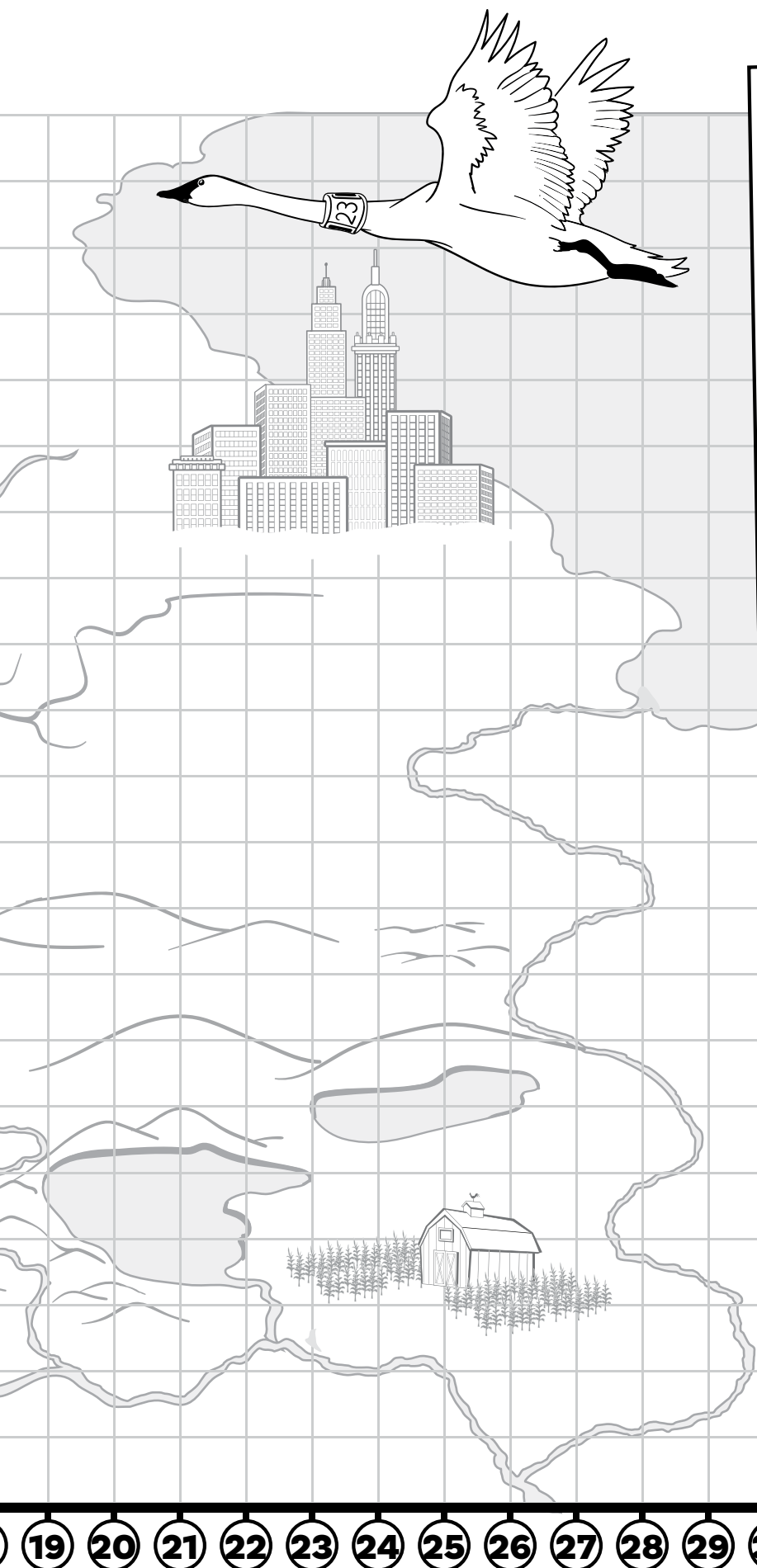
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B
A

SCAN ME

to watch a
trumpeter swan
fly in and land with
the group at a
winter site.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



Trumpeter Swan GPS Tracking Data

	DATE	COORDINATES
1.	Jun, 15	S5
2.	Oct. 24	P8
3.	Nov. 3	M12
4.	Nov. 8	K10
5.	Nov. 14	J14
6.	Nov. 17	I 17
7.	Dec. 7	H16
8.	Dec. 15	H18
9.	Jan. 6	D22
10.	Jan. 15	C24

SCAN ME

to see actual
migration
routes that
swans have
taken.

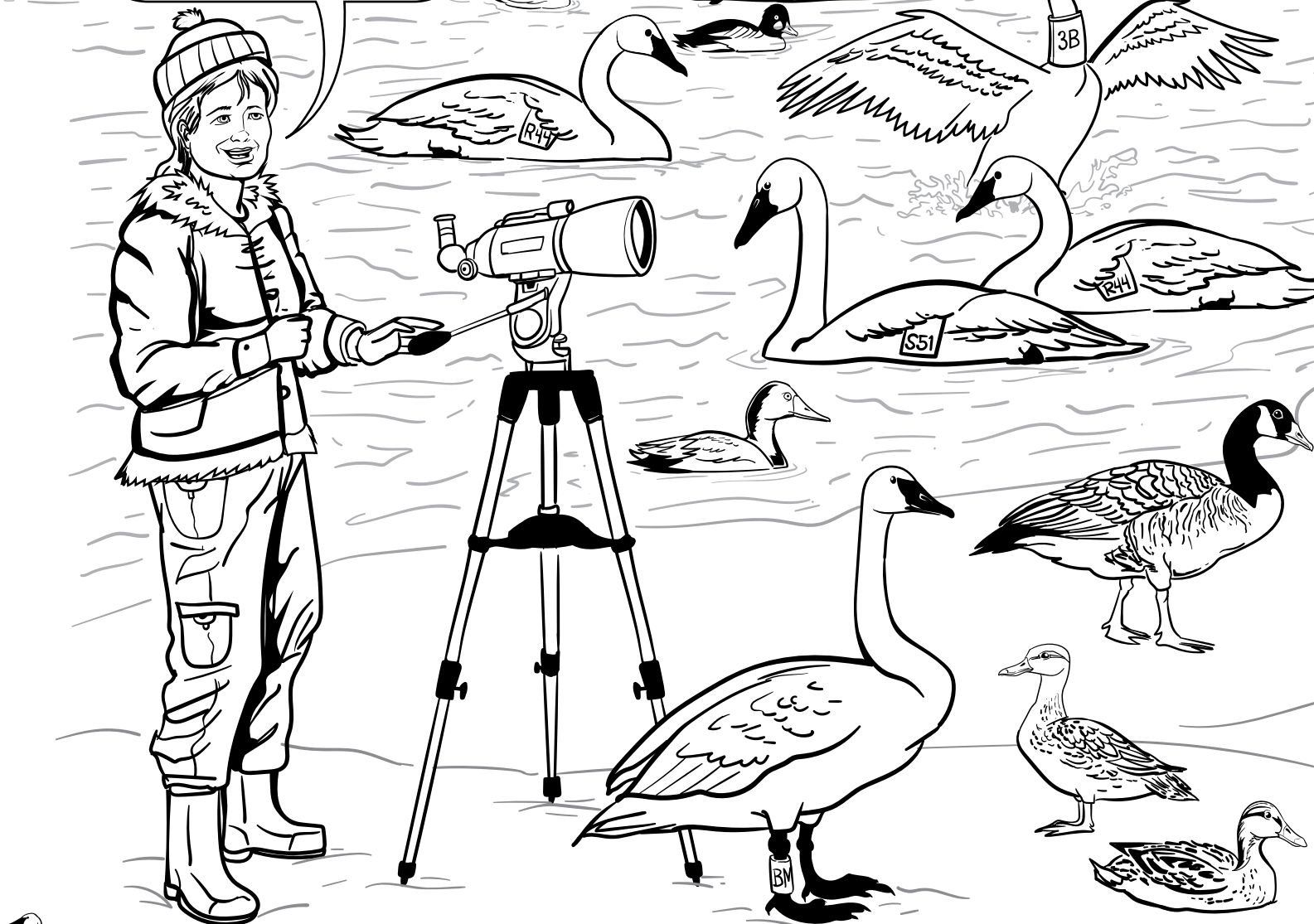


Help Find The Tagged Trumpeter Swans!

Search the picture to find swans with neck collars, leg bands and wing tags.
How many can you find of each type in this busy winter wetland scene?

Neck Collars: _____ Leg Bands: _____ Wing Tags: _____

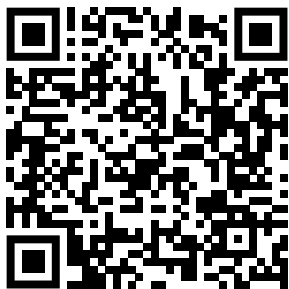
I'm a volunteer, called a
Citizen Scientist. I record
the locations of banded
swans. You can do it too!





SCAN ME

to become a
citizen scientist
and report a
trumpeter swan
sightings in
your area.



More Trumpeter Swan Information!

GLOSSARY OF TERMS:

Cob (kob) – a male swan

Cygnets (sig-nit) – a young swan

Endangered (en-dān-jerd) – at a high risk of going extinct

Habitat (hab-i-tat) – the natural environment of a plant or animal

Incubate (in-kyuh-bāt) – to sit upon eggs for the purpose of hatching

GPS (jee-pee-es) – Short for Global Positioning System, an electronic system that uses satellites to determine the location of a vehicle, person, etc.

Migrate [mī-grāt] – to pass periodically from one region or climate to another

Nictitating Membrane (nik-tuh-tay-ting mem-brān) – a transparent or translucent third eyelid present in some animals that can be drawn across the eye for protection and to moisten it while maintaining vision.

Overwinter (oh-ver-win-ter) – to spend or survive the winter

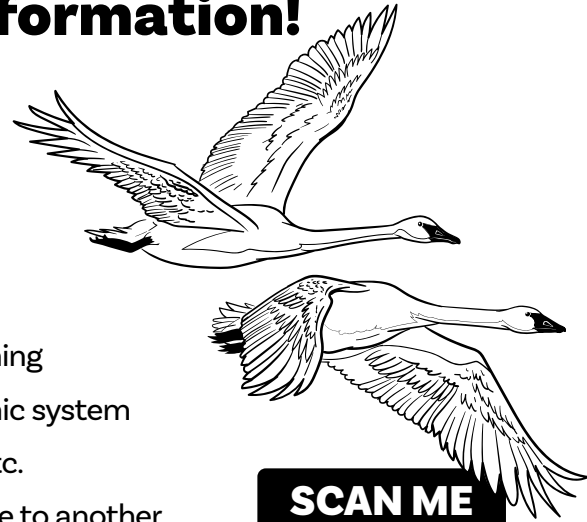
Pen (pen) – a female swan

Serrated (ser-ey-tid) – having a notched edge

Vertebrae (vur-tuh-brey) – the bones or segments that make up the spinal column

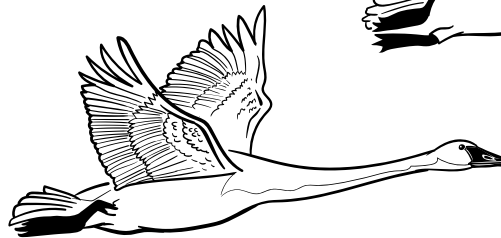
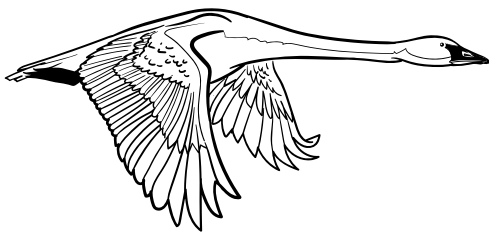
Waterfowl (wot-er-foul) – a water bird, especially a swimming bird

Wetland (wet-land) – land that has a wet and spongy soil



SCAN ME

to learn more
about wetlands



WAYS TO HELP SWANS AND THEIR HOME:

- Share with someone what you know.
- Learn more about swans by reading a book about them.
- Visit swans and other wetland animals in the wild or at a nature center or zoo.
- Don't litter, make sure you put your trash in the right place!
- Pick up trash in your neighborhood.
- Keep a journal of your trumpeter swan (and other wildlife) sightings and photographs.
- Do not feed ducks, geese or swans bread! This can make them VERY sick! Wild animals are great at finding their own food but if you must feed the waterfowl, consider a thawed bag of frozen vegetables or tear up a head of lettuce. These are better for the health of the animals.
- With an adult, report marked or tagged swans to the proper authorities.
- Report injured swans to your local wildlife agency or wildlife rehab center.

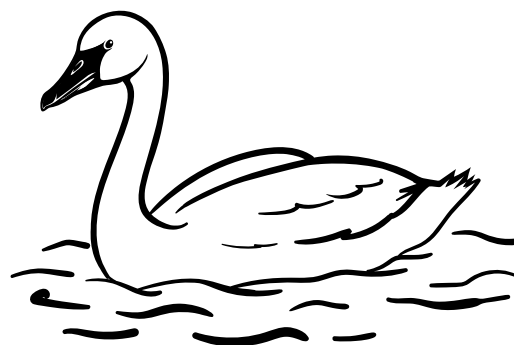
VISIT: www.trumpeterswansociety.org

Wetland Word Search

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

Can you find the following words in the word search above?

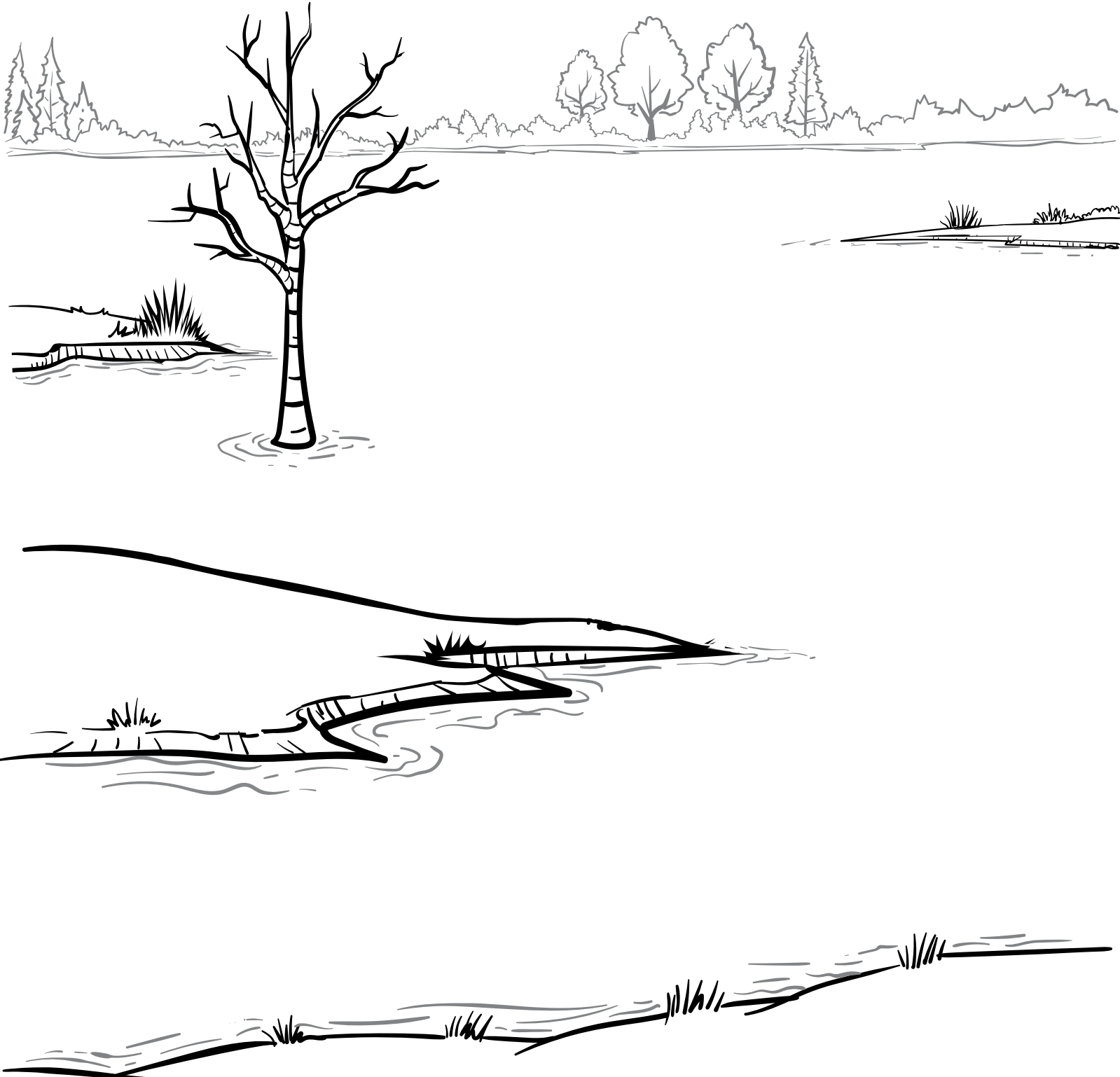
- | | | |
|------------------|------------|--------------|
| • Trumpeter Swan | • Rhizomes | • Pondweed |
| • Waterfowl | • Habitat | • Duckweed |
| • Wetland | • Hornwort | • Turtle |
| • Ecosystem | • Cattail | • Arrowhead |
| • Cygnet | • Bulrush | • Water Lily |
| • Milfoil | • Marsh | • Dragonfly |
| • Runoff | • Bullfrog | • Lake |



Draw The Rest – Complete The Wetland

Complete this empty wetland by drawing plants and animals that live there. Don't forget to include yourself!
How will you help the wetlands and the plants and animals that live in this habitat?

Have a parent or guardian scan or take a picture of this page and send it to ttss@trumpeterswansociety.org
subject line: "Wetland Scene" for a chance to be showcased on The Trumpeter Swan Society website!





TrumpeterSwanSociety.org

SCAN ME

to view the
answers to the
activities found
in this book.



Trumpeter Swans

How Can I Help?

Answer

Key



An Educational Coloring & Activity Book

Which Bird Is A Trumpeter Swan?

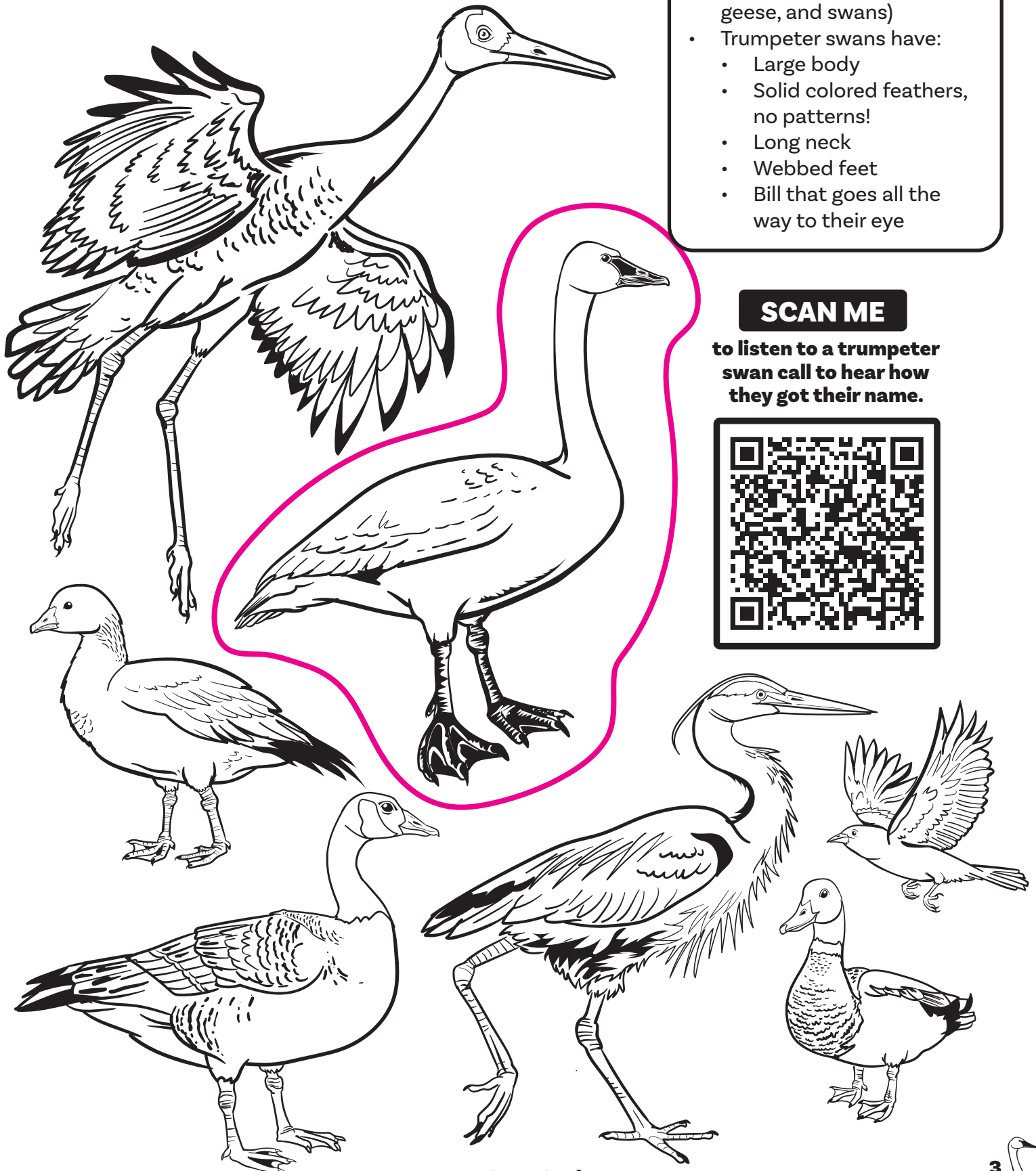
Birds come in many different shapes and sizes. Let's see if we can find the trumpeter swan among these birds. When you find the trumpeter swan, circle it!

CLUES:

- Trumpeter swans are a type of waterfowl (a group of birds that include ducks, geese, and swans)
- Trumpeter swans have:
 - Large body
 - Solid colored feathers, no patterns!
 - Long neck
 - Webbed feet
 - Bill that goes all the way to their eye

SCAN ME

to listen to a trumpeter swan call to hear how they got their name.



Swan Adaptations

1

**NICTITATING
MEMBRANE**
(3RD Eyelid)

2 **SERRATED
BILL**

3 **LONG
NECK**

4 **LAYERS OF
THICK FEATHERS**

5 **OIL
GLAND**

6 **LARGE
WEBBED
FEET**

Hi, I am an Ornithology Professor and an expert on birds. Can you figure out how the swan adaptations help them survive? Write the adaptation number next to how they are used in my notebook.



6 — Helps the swan swim and keep eggs warm

2 — Helps the swan eat

1 — Helps the swan see underwater

5 — Helps the swan's feathers stay waterproof

3 — Helps reach deep underwater

4 — Helps the swan stay warm and dry

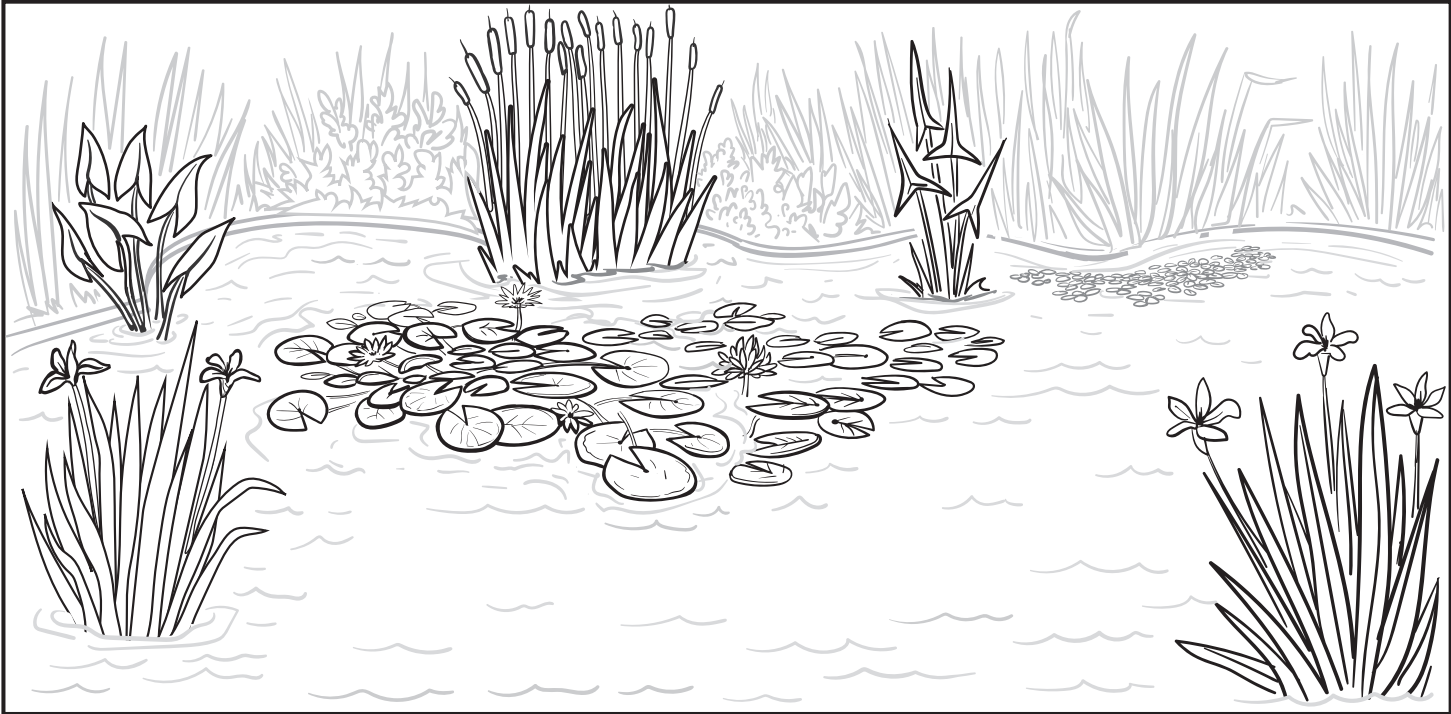
SCAN ME

to watch a trumpeter swan preen its feathers. Watch closely as it rubs its bill on the oil gland and then rubs the oil on its feathers.



Swan Habitats

Habitat is the natural place that an animal lives. Which of these habitats is the right one for trumpeter swans? Color each of these habitats and draw a trumpeter swan in the correct habitat.



WETLAND

Land that has a wet and spongy soil, typically a transitional area between dry land and open water (like a pond, lake or river).



DESERT

Area of land that receives little or no precipitation and has sparse vegetation.



TUNDRA

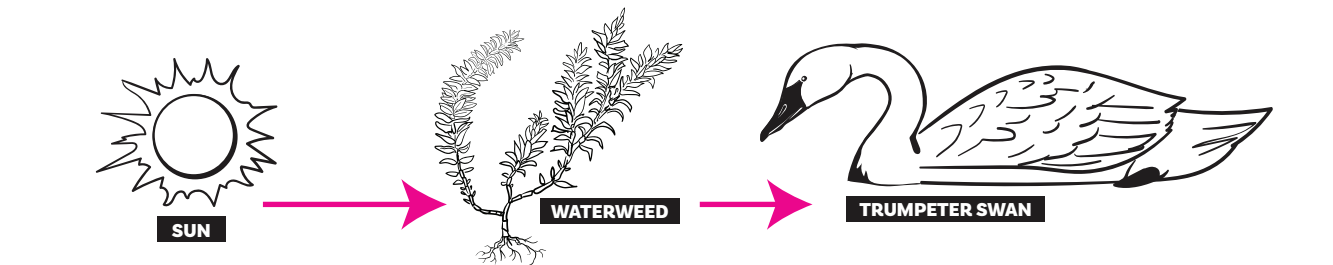
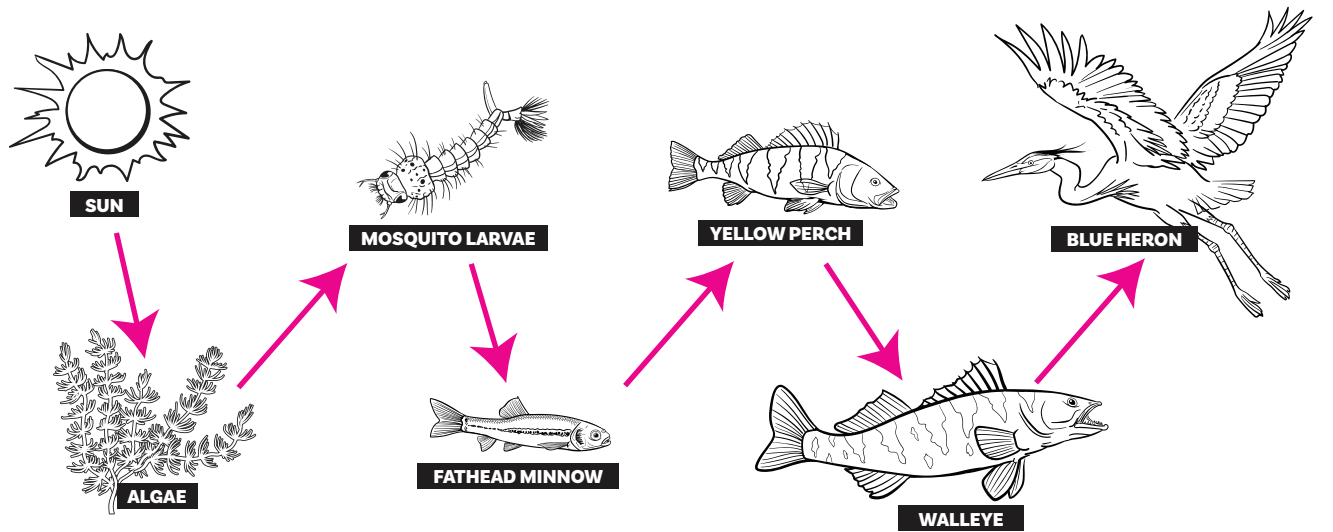
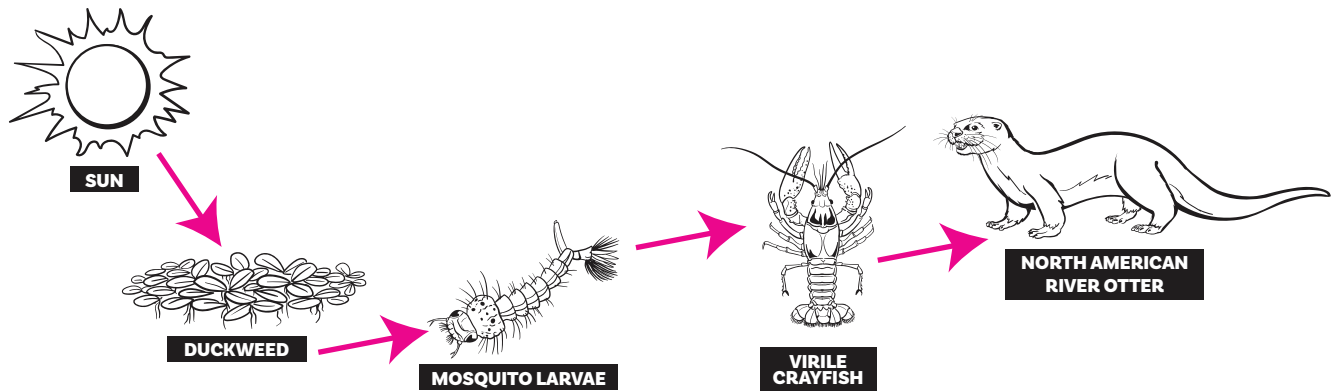
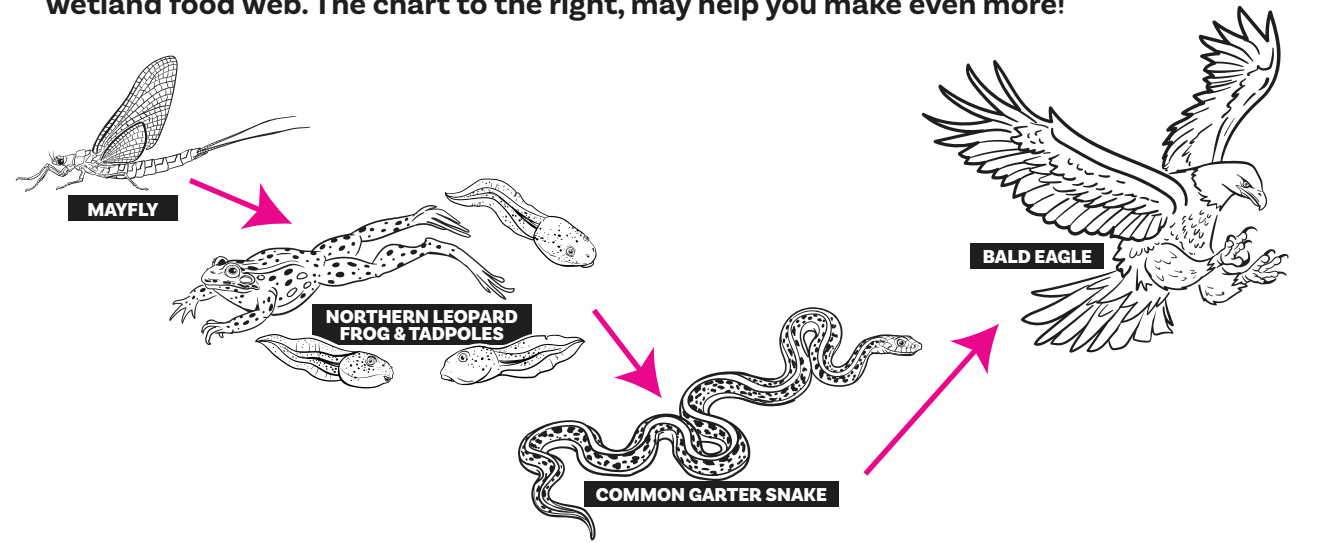
Area of land in the Arctic that is flat and nearly treeless, where the ground is permanently frozen.



RAINFOREST

Land that receives large amounts of rain and is covered in dense forest vegetation.

To help you get started, below are some example food chains you might find in a wetland food web. The chart to the right, may help you make even more!



ANIMAL:	EATS:	IS EATEN BY:
Walleye	insects, small fish (perch, minnow), young birds	otters, herons, raccoon
Bluegill	small fish (minnow, perch), insects, insect larvae, plants, crayfish	turtles, heron, otter, raccoons
Fathead Minnow	insects, algae	bluegill, perch
Yellow Perch	insects, smaller fish (minnow), snails	walleye, heron, raccoon
Waterweed	producer: sun + water + nutrients	swans, turtles, bluegill
Wapato	producer: sun + water + nutrients	swans, turtles, bluegill
Duckweed	producer: sun + water + nutrients	swans, turtles, bluegill
Painted Turtle	plants, small fish (minnow, perch), crayfish	heron, eagle, otter, raccoon
Garter Snake	frogs, fish, tadpoles	heron, eagle
Northern Leopard Frog	mayflies, mosquito larvae	heron, otter, raccoon
Crayfish	mosquito larvae, tadpoles, snails	turtle, swan, otter, raccoon
Mayfly	adults do not eat, larvae eat plant material, other insects	minnow, perch, bluegill, frog
Snail	algae, plants	perch, crayfish
Mosquito Larvae	algae, plants	blue gill, fathead minnow, yellow perch, crayfish, frogs
Bald Eagle	fish (all), turtles, snakes, swans (typically young ones)	most at danger when young and in the nest. adults have few predators, none in this particular web.
Blue Heron	minow, perch, bluegill, frogs, snakes	most at danger when young and in the nest. adults have few predators, none in this particular web.
Trumpeter Swan	vegetation, occasionally crayfish, snails, or small fish. cygnets eat insects.	predators of cygnets include walleye, eagle, raccoon, otter
River Otter	fish (all kinds), frogs, crayfish, turtles, young swans, snails	predators of young otters include raccoons and walleye
Raccoon	plants, insects, frogs, crayfish, turtles, swans	predators of young raccoons include eagles

Maze of Dangers

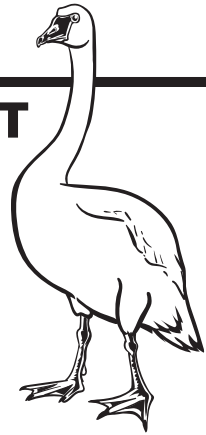
Help the Trumpeter Swan find its way to a safe habitat while avoiding threats along the way.

Hello, I am a Wildlife Rehabilitator, and my friend is a Veterinarian, or animal doctor. We work together to help sick or injured wildlife, like trumpeter swans. Hurt or sick animals can be brought to us so we can help.

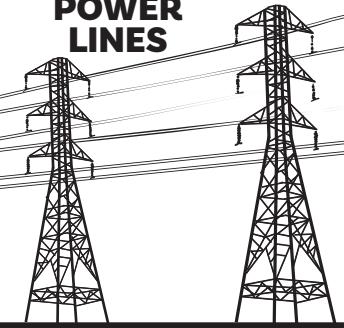
We love it when an animal gets well enough to go back into the wild. Sometimes a veterinarian cannot fix all an animal's issues. When this happens, we find it a place to live where humans can help care for it, like a nature center, zoo, or sanctuary.



START



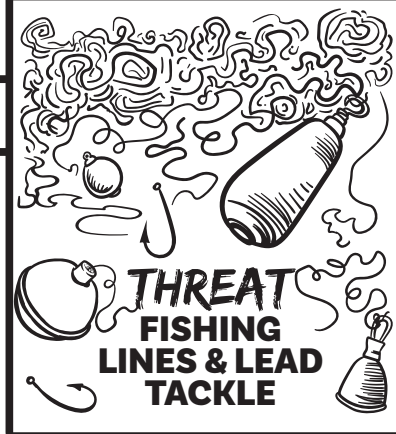
THREAT
POWER
LINES



THREAT
TRASH & PLASTIC
POLLUTION



THREAT BREAD

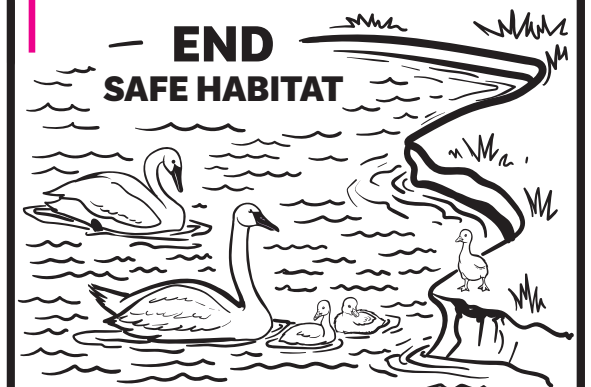


THREAT
FISHING
LINES & LEAD
TACKLE



THREAT
HABITAT
DESTRUCTION

END
SAFE HABITAT



What can you do to help swans and their home?
(See page 26 for some ideas!)

Where Did The Trumpeter Swan Go?

Using the GPS Tracking Data coordinates from the journal on the right, plot the movements of trumpeter swan #23. Mark a dot on the grid for each recorded point and then draw a line connecting all your points to reveal the route that trumpeter swan #23 took.



Trumpeter Swan GPS Tracking Data

DATE		COORDINATES
1.	Jun, 15	S5
2.	Oct. 24	P8
3.	Nov. 3	M12
4.	Nov. 8	K10
5.	Nov. 14	J14
6.	Nov. 17	I 17
7.	Dec. 7	H16
8.	Dec. 15	H18
9.	Jan. 6	D22
10.	Jan. 15	C24

SCAN ME
to watch a trumpeter swan fly in and land with the group at a winter site.



SCAN ME
to see actual migration routes that swans have taken.



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Help Find The Tagged Trumpeter Swans!

Search the picture to find swans with neck collars, leg bands and wing tags.
How many can you find of each type in this busy winter wetland scene?

Neck Collars: 7 Leg Bands: 3 Wing Tags: 10

I'm a volunteer, called a Citizen Scientist. I record the locations of banded swans. You can do it too!

SCAN ME

to become a citizen scientist and report a trumpeter swan sightings in your area.



Wetland Word Search



Can you find the following words in the word search above?

- Trumpeter Swan
- Waterfowl
- Wetland
- Ecosystem
- Cygnet
- Milfoil
- Runoff
- Rhizomes
- Habitat
- Hornwort
- Cattail
- Bulrush
- Marsh
- Bullfrog
- Pondweed
- Duckweed
- Turtle
- Arrowhead
- Water Lily
- Dragonfly
- Lake

