

Teaching Activities

for



<u>Questions before & after reading the book</u>	2
<ul style="list-style-type: none">• Questions to ask before reading the book• What do children already know? With charts• After reading the book – writing prompts & thinking it through• Re-read the book looking for more information• Comprehension questions• What do children already know activity conclusion	
<u>Language Arts</u>	7
<ul style="list-style-type: none">• Developing a “word wall”• Vocabulary game• Putting it all together• Suggested vocabulary list• Silly sentence structure activity• Sequencing sentence strips• Word search• Write about it!	
<u>Science</u>	15
<ul style="list-style-type: none">• Edible sorting & classifying activity• Sorting by attribute graph• Classifying animals• Animal classification chart at class level (vertebrates)• A day in the life of . . .• Life cycle• Adaptations• Science journal• Nature observation notebook• Venn diagram	
<u>Math</u>	25
<ul style="list-style-type: none">• Number lines• Measuring (comparing & contrasting)	
<u>Research & Geography</u>	28
<ul style="list-style-type: none">• Map identification/geography questions	
<u>Other</u>	29
<ul style="list-style-type: none">• Coloring pages	

Teaching Activities are intended for use at home, in the classroom, and during story-times.

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[Return to Top](#)

Questions to ask children before reading the book

- What do you think the book is about by looking at the cover (or one or two of the inside illustrations)? *Sometimes it is easy to tell from the cover, other times it is not.*
- What animals are on the cover?
- What do you think “whistling wings” refers to?

What do children already know?

- Young children are naturally inquisitive and are sponges for information. The whole purpose of this activity is to help children verify the information they know (or think they know) and to get them thinking “beyond the box” about a particular subject.
- The children should write down their “concepts” (or adults for them if the children are not yet writing) on the provided chart found on the next page.
- Use the questions to get children thinking about what they already know. Feel free to add more questions or thoughts according to the child(ren) involved.

[Return to Top](#)

What do children already know—activity chart

Ask children to write down what they think they know before reading the book. If the information is verified while reading the book, they check “yes.” If the information is wrong, they mark “no” and cross it off, then write the correct information. Have the children note how the information was verified.

<u>What do I think I know?</u>	<u>Yes</u>	<u>No</u>	<u>Verified</u>
Why do some birds migrate?			Text Illustration Info in FCM Other
What is a tundra swan?			Text Illustration Info in FCM Other
Where do tundra swans migrate from and to?			Text Illustration Info in FCM Other
How far do you think swans fly to migrate?			Text Illustration Info in FCM Other
What are some ways that other animals deal with winter cold?			Text Illustration Info in FCM Other
What do you think would happen if an animal didn't migrate when they should?			Text Illustration Info in FCM Other

[Return to Top](#)

Use this chart for any other thoughts the children might have.

<u>What do I think I know?</u>	<u>Yes</u>	<u>No</u>	<u>Verified</u>
			Text Illustration Info in FCM Other

[Return to Top](#)

After reading the book – writing prompts & thinking it through

- Did the cover “tell” you what the book was about?
- If not, how does the illustration on the front relate to the story?
- Draw your own cover.
- Write a song about flying a thousand miles.
- Do you think everything in the story could be true? *Do animals really talk to each other or have human traits?*
- If the author used talking animal or gave the animals human traits, could the story have been told differently? How?
- Write a different ending to the story

Re-read the book looking for more information

Go back and re-read the book studying each page carefully.

- What facts are mentioned in the text?
- Pause during second readings and ask the child(ren) if they remember what happens next.
- What would happen if a character did something different or if something different happened to the character? Would it/could it change the story?

Comprehension Questions

- What kind of animal is Marcel?
- What time of year does this story take place?
- Why did Marcel and his family go to the lake?
- Where was the family going?
- Why didn't Marcel want to go?
- What did he do when all the swans left?
- Who tried to help him?
- Why couldn't they help him?
- Who was able to help him and how?
- How far did he have to fly?

[Return to Top](#)

What do children already know—activity conclusion

- Do the children have any more questions about tundra swans or migration? If so, write them down on the chart.
- Identify whether the information was verified and how.
- If the concept is correct, make a note of how the information was confirmed (illustration, in text, or the “For Creative Minds” section)
- If the concept was not correct, what IS the correct information – with confirmation notes as above.
- If the concept was neither confirmed nor denied, look the information up in a reliable source and note where it was confirmed.
- Wrap it all up by adding notes with new information that the children learned either through the reading or the research while looking up something else.

[Return to Top](#)

Language Arts

Developing a vocabulary “word wall”

If using the book as a way to introduce a topic or subject, this is also a great way to introduce subject-related vocabulary words. If you don't have the time (or the inclination) to develop the “word wall” by playing the Vocabulary Game (below), we have provided a vocabulary list for you.

Vocabulary words for the “word wall” may be written on index cards, on a poster board, or on a chalk board. If writing on poster board or chalk board, you might want to sort into nouns, verbs, etc. right away to save a step later. Leaving the words posted (even on a refrigerator at home) allows the children to see and think about them frequently.

Vocabulary game

This activity is designed to get children thinking of vocabulary words which will then be used as the beginning vocabulary list for a science lesson.

Select an illustration and give children a specific length of time (five minutes?) to write down all the words they children can think of about the particular subject. *If you do not have classroom sets of the book, it is helpful to project an illustration on a white board. Check Web site (www.ArbordalePublishing.com) for book “previews” that may be used for this purpose.*

The children's word list should include anything and everything that comes to mind, including nouns, verbs, and adjectives. At the end of the time period, have each child take turns reading a word from his/her list. If anyone else has the word, the reader does nothing. If however, the reader is the only one with the word, he/she should circle it. While reading the list, one person should write the word on a flashcard or large index card and post it on a bulletin board or wall.

At the end, the child with the most words circled “wins.” And you have a start to your science vocabulary list. *Note if a child uses an incorrect word, this is a good time to explain the proper word or the proper usage.*

Putting it all together

The following activities may be done all together or over a period of several days.

- Continue to add words to the vocabulary list as children think of them.
- Sort vocabulary words into nouns, verbs, adjectives, etc. and write what they are on the backs of the cards. When the cards are turned over, all you will see is “noun,” etc. *(These can then be used to create silly sentences, below.)*
- Now sort the vocabulary words into more specific categories. For example, nouns can be divided into plants, animals, rocks, minerals, etc. They can be divided into living/non-living, or into habitat-related words.
- Have children create sentences using their vocabulary words. Each sentence could be written on a separate slip of paper.
- Have children (individually or in small groups) sort and put sentences into informative paragraphs or a story.
- Edit and re-write paragraphs into one informative paper or a story.

[Return to Top](#)

Whistling Wings

Suggested vocabulary list

<u>nouns</u>	<u>verbs</u>	<u>adjectives</u>
air	camouflage	black
beak	dream	frosty
claws	flap	hollow
cob	float	long
cygnets	fly	thousands
eagle	freeze	webbed
eggs (hard-shells)	glide	whistling
feathers	hatch	white
fish	hide	white
flock	hiss	
hole	hole	
hollow bones	migrate	
ice	molt	
incubate	raise	
instinct	rest	
lake	skid	
log	sleep	
miles	survive	
moonlight	swim	
muskrat	waddle	
neck		
nest		
nestling		
pen		
pondweed		
raccoon		
sound		
spring		
swan		
tail		
tundra		
wing		
wing		
wingspan		
winter		

[Return to Top](#)

Whistling Wings

Silly sentence structure activity

This is a fun activity that develops both an understanding of sentence structure and the science subject. Use words from the “word wall” to fill in the blanks. After completing silly sentences for fun, have children try to fill in the proper words by looking for the information in the book.

Tundra _____s are also called Whistling Swans
because their _____s “whistle” as they fly.
noun noun

Adult tundra swans have a _____ up to 7 feet.
noun

Their _____s are all _____ with
black legs and feet.
noun adjective

Their _____ feet help them swim.
adjective

When angry or scared, a tundra swan will _____
and raise its wings.
verb

Adult swans _____ (loose and grow back bigger)
flight _____s during the summer on the
breeding grounds.
verb noun

Birds are the only animals with _____s. They
_____ from eggs.
noun verb

[Return to Top](#)

Whistling Wings

Sequence sentence strips

Preparation: Cut into sentence strips, laminate if desired, and place in a "center." Have children put the events in order. Children may work alone or in small groups. Cards are in order but should be mixed up when cut apart.

----- ✂ -----

**Marcel and his mom and dad arrived at the lake
after a long flight.**

----- ✂ -----

Marcel was tired and fell fast asleep.

----- ✂ -----

**Marcel liked the lake and playing with the other
cygnets.**

----- ✂ -----

**Marcel dreamed that he was flying for thousands
of miles.**

----- ✂ -----

He hid when the other swans left to fly south.

----- ✂ -----

He was the only swan left by the lake.

----- ✂ -----

A muskrat tried to show Marcel how to find food.

----- ✂ -----

An eagle showed Marcel where to get some fish.

----- ✂ -----

**A raccoon showed Marcel how to crawl into a log
for a warm rest.**

----- ✂ -----

----- ✂ -----
Marcel felt lonely and cold.

----- ✂ -----
He heard a whistling sound.

----- ✂ -----
It was his parents!

----- ✂ -----
They broke through the ice for pondweed to eat.

----- ✂ -----
Marcel and his parents flew south.

[Return to Top](#)

Whistling Wings

Word search

Find the hidden words. Even non-reading children can try to match letters to letters to find the words! Easy – words go up to down or left to right.

For older children, identify the coordinates of the first letter in each word (number, letter).

	A	B	C	D	E	F	G	H	I	J
1	E	S	U	M	A	Y	F	M	L	Y
2	T	W	H	I	S	T	L	I	N	G
3	L	A	K	E	W	U	A	G	A	F
4	M	N	W	D	I	N	P	R	E	O
5	U	O	L	E	N	D	P	A	A	O
6	S	P	E	A	G	R	I	T	G	D
7	K	E	B	R	S	A	N	E	L	D
8	R	A	E	I	C	Y	G	N	E	T
9	A	R	A	C	C	O	O	N	X	P
10	T	E	K	E	W	I	N	T	E	R

___, ___ TUNDRA
___, ___ CYGNET
___, ___ FLAPPING
___, ___ LAKE
___, ___ ICE

___, ___ SWAN
___, ___ WHISTLING
___, ___ MUSKRAT
___, ___ RACCOON
___, ___ BEAK

___, ___ MIGRATE
___, ___ WINGS
___, ___ EAGLE
___, ___ FOOD
___, ___ WINTER

[Return to Top](#)

Whistling Wings

Write about it!

Write about something that you have been afraid to try or do.

Write about a time that you did something you were proud of.

Write about a time that you were really cold or hungry.

Write about how you think you might feel if you were lost (separated) from your mom or dad in a strange place.

Write about how you might help someone who is lost.

Write about a time that you helped someone.

[Return to Top](#)

Science

Edible sorting and classifying activity

Gather together a cup of edible “sorting items.” For example:

- As many different kinds of M&Ms as you can find
- Chocolate & peanut butter chips
- Hershey kisses
- Peanuts or other type of nuts



Ask the child to sort the items into groups. There is no right and wrong, only what makes sense to the child. When finished, ask the child:

What criteria or attribute (color, size, ingredient, etc.) did you use to sort the items?

- Are there some items that fit more than one group or don't fit any group?
- Is it easy to sort or were there some items that were a little confusing?

If more than one person did this, did everyone sort by the same criteria? To really extend the learning, graph the attributes used to sort the items. (*blank graph below*)

Sorting by attribute graph

Graph the attributes that children used to sort their items.

What was the most common attribute (size, shape, color, etc.) used?

10					
9					
8					
7					
6					
5					
4					
3					
2					
1					
Attribute:					

[Return to Top](#)

Classifying animals

Animals can be sorted too. What are some attributes you might use to sort animals?

- By habitat
- Do they have arms or legs?
- How many legs do they have?
- Do they have stripes or patterns on their bodies?
- Do they walk, swim, jump, or fly?

Some things are very easy for scientists to sort or classify, other things are not so easy. The first question they will ask is whether the item is (or was) alive or not. Both plants and animals are living things.

If the item in question is an animal, like the animals in the story, scientists will then ask other questions:

- Does it have hair or fur, feathers, or dry skin or scales?
- Does it get oxygen from the air through lungs or water through gills?
- Are the babies born alive or hatched from eggs?
- Does the baby eat milk from its mother?
- Is it warm or cold-blooded?
- How many body parts does the animal have?

By answering these (and other) questions, scientists can sort or classify the animals into “classes” such as mammal, bird, reptile, fish, amphibian, or insect.

[Return to Top](#)

Animal classification chart at class level (vertebrates)

Information on the five classes of **vertebrates** (animals with backbones) is given in the table below. Using information found in the book or below, fill in the blanks for each of the animals mentioned in the book (text and the *For Creative Minds* section). Some of the information may be determined by looking at the illustrations. For example, if the animal breathes water, it will be shown living in the water. If the information is not in the book, it has already been filled in.

Have the children use the chart to determine to which class of animals each animal belongs (mammal, bird, fish, or reptile). The chart may also be used to complete a Venn diagram.

	gets oxygen from air or water	Warm or cold-blooded	Lays eggs or live birth	Hair, scales, or feathers
Mammals	Air	Warm	Mostly live	Hair
Birds	Air	Warm	Eggs	Feathers
Fish	Water	Cold	Varies	Scales
Reptiles	Air	Cold	Mostly eggs	Scales
Amphibians	Water, then air	Cold	Eggs in water to larva	Moist skin that is naked & smooth
Tundra Swan		Warm		feathers
Raccoon		Warm	live	fur
Eagle		Warm	eggs	feathers
Muskrat		Warm	live	fur

A day in the life of . . .

- Pick an animal from the book (tundra swan, eagle, raccoon, or muskrat) and pretend that you are that animal.
- Explain where you live (habitat).
- What do you eat?
- What animals might eat you?
- How do you protect yourself from those animals?
- Where do you sleep or rest?

Write a paragraph about what you do during the day (or night if nocturnal).

[Return to Top](#)

Bird Life Cycle

Sequence Sentence Strips for:
Christmas Eve Blizzard (2005)
Loon Chase (2006)
The Best Nest (2008)
Whistling Wings (2008)

Preparation: Cut into sentence strips, laminate if desired, and place in a “center.” Have children put the events in order. Children may work alone or in small groups. Cards are in order but should be mixed up when cut apart.

-----✂-----

The female lays her eggs in the nest. Depending on the type of bird, she will lay between two to six eggs.

-----✂-----

She then sits on the nest to keep the eggs warm (**incubate**) until they hatch—about two weeks.

-----✂-----

While the female is incubating the eggs, the male will guard them. If a predator gets too close, the male will make a lot of noise and fly around to try to distract the predator from the nest. He will also deliver food to the female as she sits on the nest.

-----✂-----

----- ✂ -----

The baby birds **hatch** out of the eggs.

----- ✂ -----

The babies are called **nestlings** while they live in the nest. It takes a few weeks for their feathers to develop and for them to be big enough to fly.

----- ✂ -----

Usually both the male and female care for the nestlings by keeping them warm and feeding them.

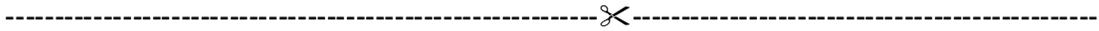
----- ✂ -----

Once they start to fly, they are called **fledglings**. They will fly to and from the nest for another week or two, still being feed by their parents.

----- ✂ -----



The parents provide less and less food to teach the fledglings how to find food. After a short amount of time the parent birds chase the fledglings out of the nest.



Many birds will lay several groups of eggs (**broods**) a year. Sometimes the female lays more eggs within days of one brood leaving the nest.



[Return to Top](#)

Adaptations

Adaptations help animals to live in their habitat: to get food and water, to protect themselves from predators, to survive weather, and even to help them make their homes.

- Physical Adaptations include body shape. (teeth, feet, body covering, hair, blubber, ability to move, climb, etc.)
- Camouflage: color of skin or pattern to blend into background.
- Mimicry: Pretending to be something else to fool predators (Katydid)
- Behavior: opossum plays dead, social groups
- Migration: the seasonal movement of animals from one location to another
- Hibernation: a long, deep sleep in which the animals breathing and heartbeat are lower than usual.

Pick an animal from the book and try to figure out some of the animal's adaptations.

- How does it move and what parts of its body does it use to move?
- How does it see?
- How does it hear?
- How does it get its food?
- What parts of its body does it use to gather the food?
- How does it eat its food?
- What parts of the body does it use to eat the food? (teeth are different for carnivores than herbivores...)
- How does it hide from predators or prey (so it can catch the prey)?
- How does it protect itself from predators?
- In what habitat does it live?
- What adaptations does the animal need to help it survive in that habitat? (heat, cold, land, water, underground, high altitude, et.)
- Where does the animal live and does it make a "house?"
- Does it live alone or with a group?
- How does it "communicate" with others of its kind?
- How does it sleep?
- When does it sleep?
- Is food readily available all year?
- How does the animal deal with seasonal changes (if applicable)?

[Return to Top](#)

Science journal

Have children draw a picture to define the vocabulary word or concept.

migration

cygnet

tundra

[Return to Top](#)

Nature observation notebook

Animals are busy around you at different times of the day or year.

Do different animals show up in your backyard at different times of day? Go in your backyard (or school playground) at different times of the day (morning, noon, evening and night) and write down the animals you see. Are they the same or different? What changes there during the day that might cause different animals to come out at different times (such as light or temperature)?

Keep a journal with the following information

- Where are you?
- What time of day is it?
- What is the weather? (clear/rainy/cloudy or hot/cold)
- What animals do you see?
- What are they doing?

Those are the animals that you can see. Are there animals that you can hear but can't see?

- What type of sounds do you hear?
- What type of animal do you think makes the sound?
- Is it one animal or many animals?

Do you think you would see the same animal at the same place and time tomorrow?

Do you see any "signs" that animals have been there?

- Feathers or bones?
- Tracks or footprints?
- Scat (poop?)
- Scratches or claw marks on trees?
- Partially eaten plants (leaves, nuts, pinecones) or other animals?
- Signs of nests or homes?

[Return to Top](#)

Math—Bird size and wingspan comparison

for use with



Bird	size (inches)	Avg. Wingspan (inches)
Cardinal (Northern)	8-9"	10-12"
Great Blue Heron	38-54"	66-79"
Loon, common	26-36"	41-52"
Magpie (Black-billed)	18-24"	22-24"
Tundra Swan	47-58"	66"

Size information from Cornell's All About Birds: <http://www.birds.cornell.edu/AllAboutBirds/BirdGuide/>

Birds range in size from the tiny bee hummingbird to the giant ostrich. Using the information in the table above, answer the following questions:

Which bird is smallest? _____
Which bird is the largest? _____
Put the birds in order from smallest to largest.

A bird's wingspan is measured from the tip of one wing to the tip of the other wing and is usually larger than the bird itself.

Which bird has the smallest wingspan? _____
Which bird has the largest wingspan? _____
Put the birds in order from smallest to largest wingspan. Are they in the same order as the size?

How big is that wingspan?

If desired for some of the larger wingspans, convert the inches into feet and inches. Using the right measuring tool (ruler, yard stick or measuring tape) and chalk, draw a seven-foot line on the playground, sidewalk, or driveway. Mark off the appropriate inches or feet and inches and identify the birds' wingspans. If you were to lie down on or next to the line, which bird's wingspan would be closest to your size?
If you were to lie down on or next to the line, how many times would you have to lie down in order to equal the size of the larger wingspans?
If someone shorter or taller than you did it, how many times do they have to lie down to equal the same wingspan? Is that more or less than you?

[Return to Top](#)

Great Backyard Bird Count:

<http://gbbc.birdsource.org/gbbcApps/report?cmd=showReport&reportName=SpeciesState&species=tunswa&year=2008>

March 2008 Results: Tundra Swan (*Cygnus columbianus*)

<u>State/Province</u>	<u>Number of Birds</u>	<u>Number of Checklists Reporting the Species</u>
Alaska	6	3
Arizona	1	1
British Columbia	4	2
California	8,627	32
Delaware	980	16
Georgia	1	1
Idaho	294	14
Illinois	2	1
Indiana	6	2
Iowa	1	1
Maryland	1,074	40
Michigan	577	12
Minnesota	7	2
Missouri	9	4
Montana	5	3
Nebraska	4	2
Nevada	2,445	5
New Jersey	292	26
New York	32	9
North Carolina	4,710	19
Ohio	1,434	17
Ontario	178	9
Oregon	2,371	17
Pennsylvania	2,466	12
Rhode Island	3	1
South Carolina	39	5
Utah	1,785	25
Virginia	582	20
Washington	312	6
West Virginia	1	1
Total	28,248	

[Return to Top](#)

Great Backyard Bird Count continued

Using the information on the table on the previous page, complete the following questions or activities.

List the states in order from most Tundra Swans in March 2008 to least.

How many tundra swans were seen in the state/province in which you live? Click on your state to see where the birds were seen.

If Tundra Swans nest in Alaska and Northern Canada, why were there so few seen in Alaska during March?

Using the map below, color the states using the following color code:

less than 500	red
501 to 1000	blue
1001 to 5000	green
over 5001	yellow

What do you notice about the states with the most tundra swans in March?

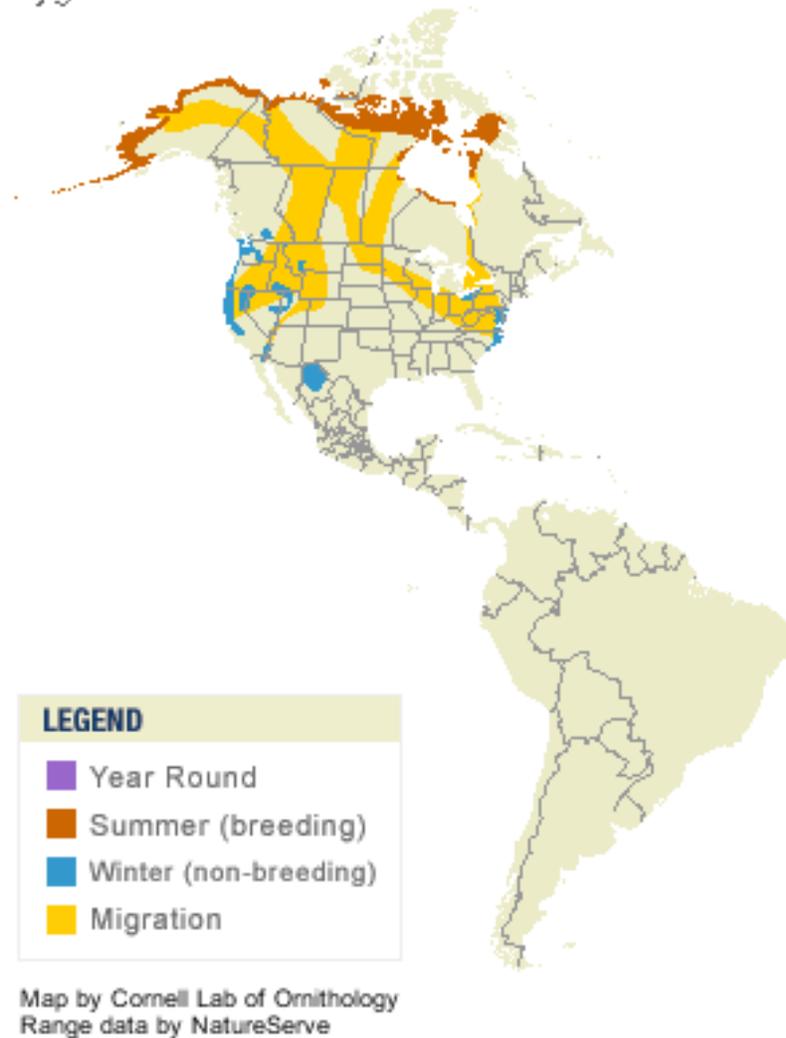
If the count were taken during the summer, which states/provinces do you think would have the highest numbers?



[Return to Top](#)

Research and geography

Tundra Swan *Cygnus columbianus*



Find the state or province in which you live on the map above. At what time of the year, if at all, could you see a tundra swan?

Would the swan be breeding, non-breeding, or migrating?

Name three areas you might expect to see tundra swans during the summer breeding.

Name three areas you might see tundra swans during migration only.

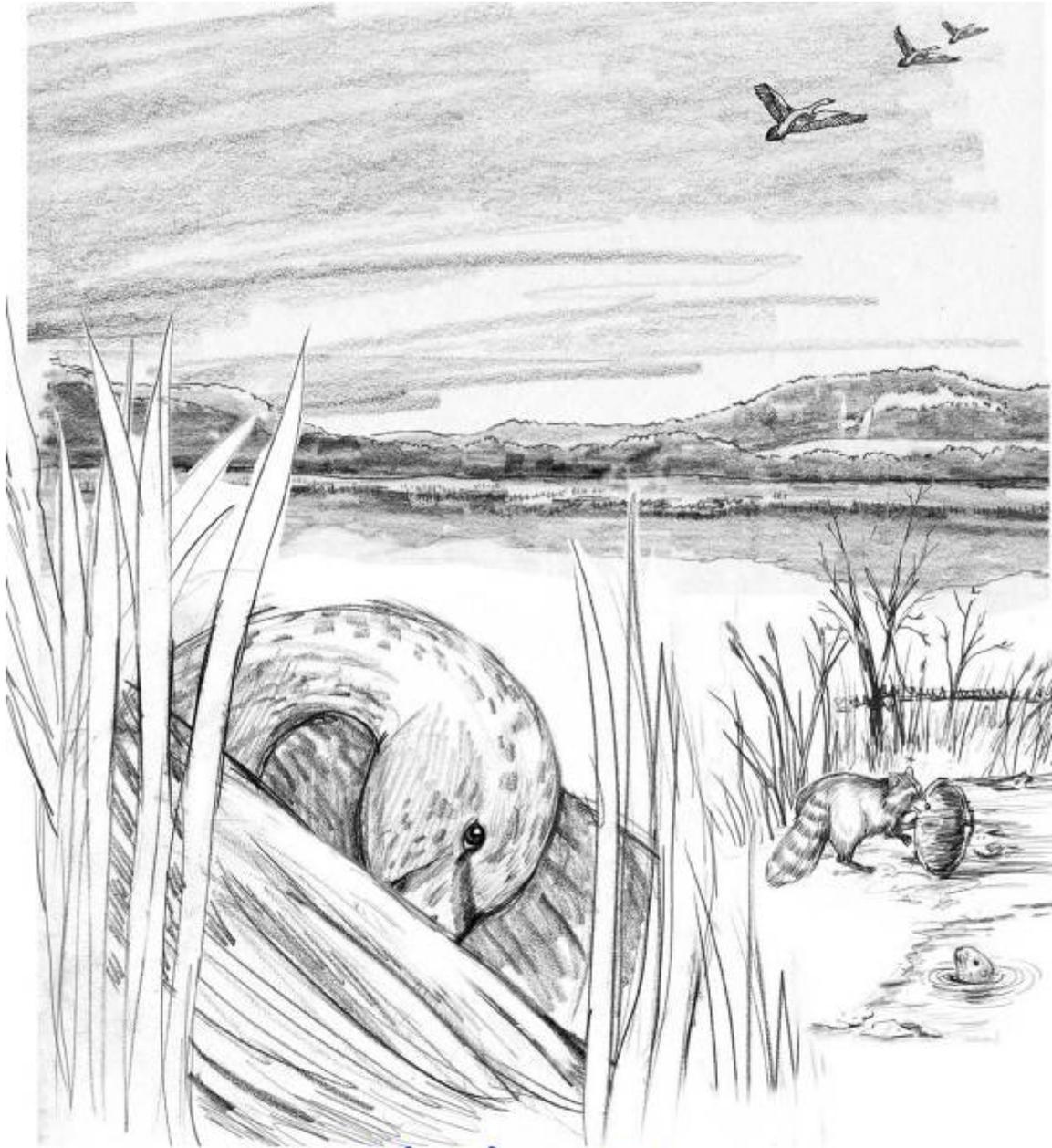
Name three areas you might see tundra swans during the winter (non-breeding).

For more Tundra Swan Migration tracking, go to:

<http://www.swanmigration.org/maps.htm>

[Return to Top](#)

Other—coloring pages



Whistling Wings

illustration sketches by Laura Jacques

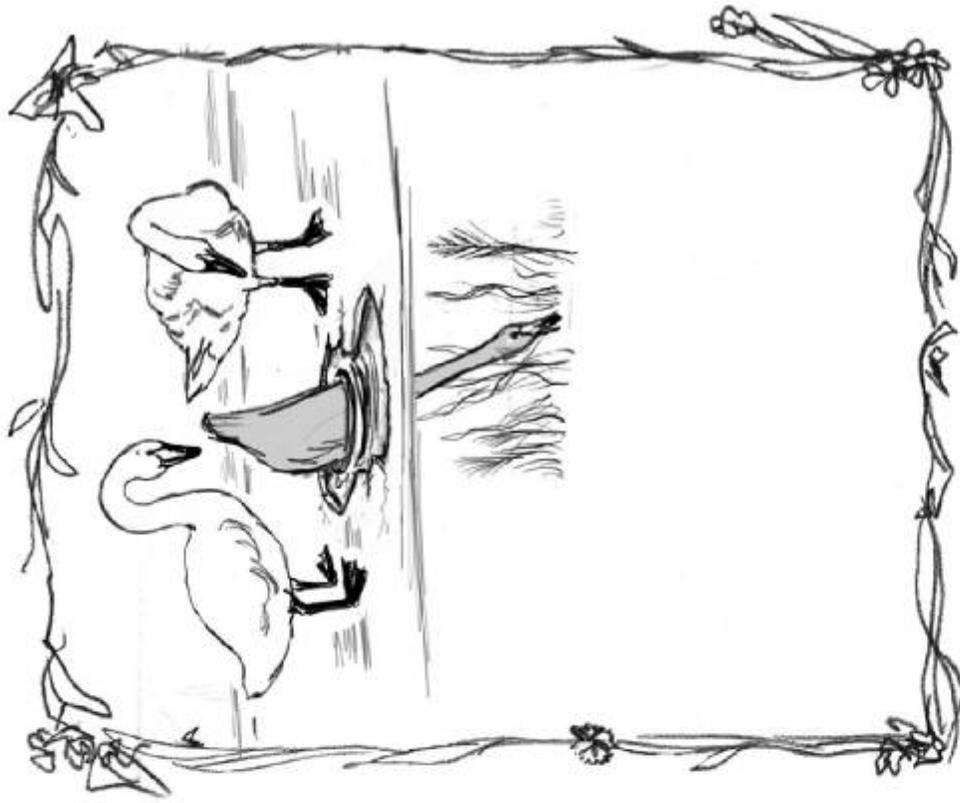
[Return to Top](#)



Whistling Wings

illustration sketches by Laura Jacques

[Return to Top](#)



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