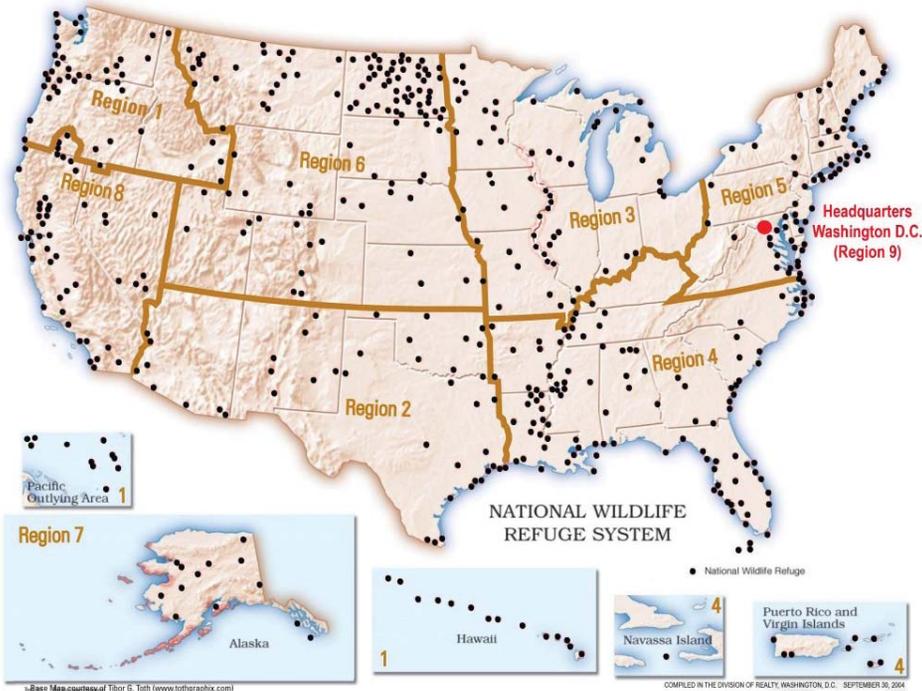
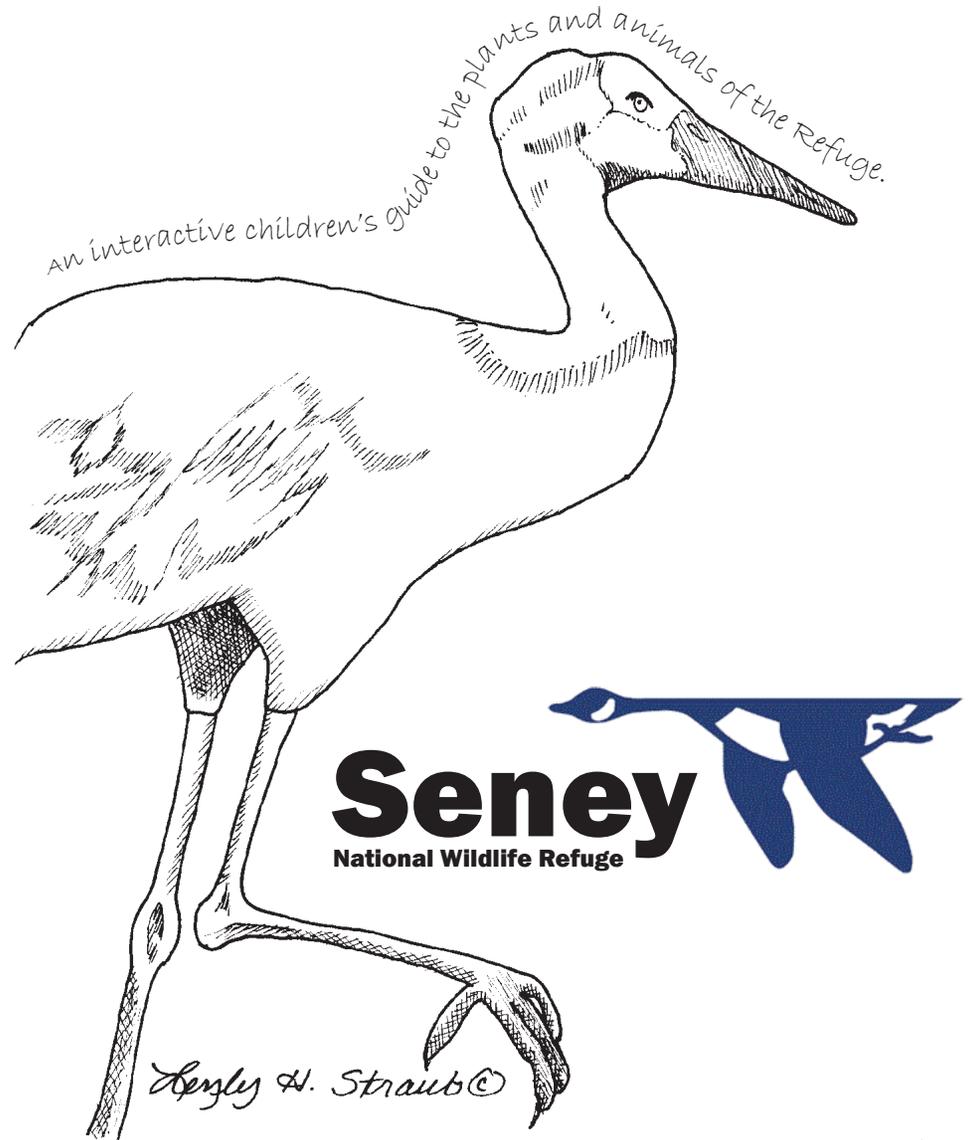


Refuge System Facts



- ⇒ The National Wildlife Refuge System is over 100 years old.
- ⇒ There are more than 566 National Wildlife Refuges in all 50 states and territories.
- ⇒ Refuge lands cover almost 150 million acres. If we put all the land together, it would take up almost as much space as Texas, the second largest state.
- ⇒ Refuges provide homes for more than 700 species of birds, 220 species of mammals, 250 species of reptiles and amphibians, and more than 1,000 species of fish!
- ⇒ More than 380 threatened or endangered species are protected on National Wildlife Refuges.
- ⇒ Seney National Wildlife Refuge is the 8th largest refuge east of the Mississippi River.

Seney National Wildlife Refuge Activity Journal & Jr. Ranger Program



Tips for using the activity journal:

- ⇒ Before you leave the Visitor Center, consider borrowing a pair of binoculars.
- ⇒ Open the booklet to the wildlife observation page (center), find a pencil, and observe. When you have spotted something you find interesting, stop and make your observations.
- ⇒ Later, you can read, write, draw, color and enjoy the other pages.
- ⇒ Answers to questions can be found at the back of the booklet.
- ⇒ You can find more information about Seney NWR at fws.gov/refuge/seney.

Many thanks to Sara Giles, co-author and Visitor Services Manager, for her ideas and willingness to begin this project. Also thanks to Seney Natural History Association, the Seney National Wildlife Refuge Staff, and the Bookstore Committee for suggestions and editing.

I hope your visit, and this booklet, help you to love and appreciate this beautiful, amazing place reserved for nature, but open to us so we can enjoy and forever love this place. Lezley Strawb ~ Illustrator and co-author. Illustrations Lezley Strawb

Published 2018

Hidden Wildlife

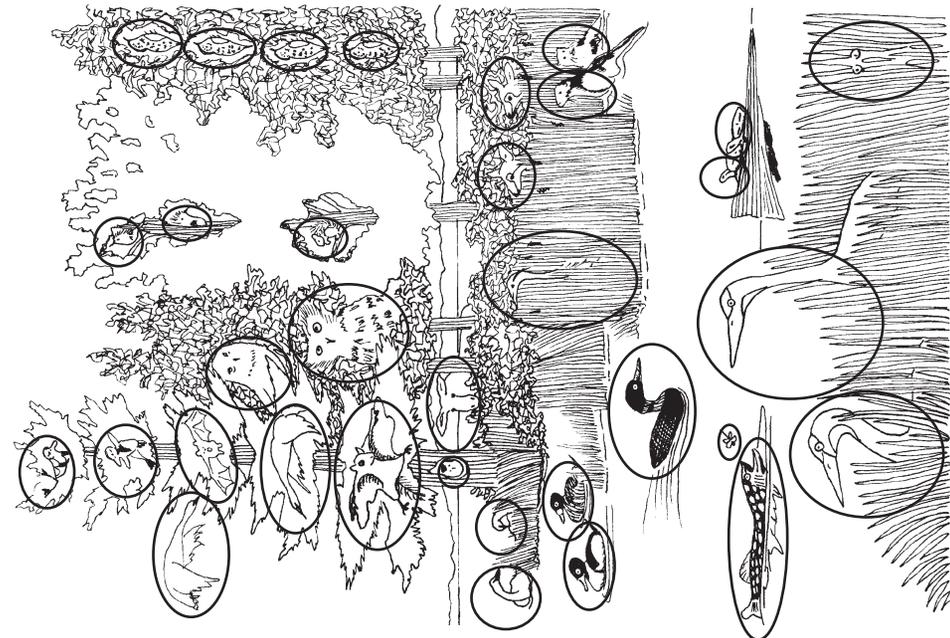
Brown Creepers (2)
(5)
Ducklings (2)
Trumpeter
Swans (4)
Bat
Snowy Owl
Great Horned Owl (2)
Flying Squirrel
Moose
Red Squirrel
Warblers (2)
Sandhill
Cranes (2)
White-tailed
Deer (2)
Common Loon
Ring-necked
Ducks ♂ and ♀ (2)
Painted Turtles

(2)
Otter (2)
Dragonfly
Great Blue
Heron
American
Bittern
Northern Pike

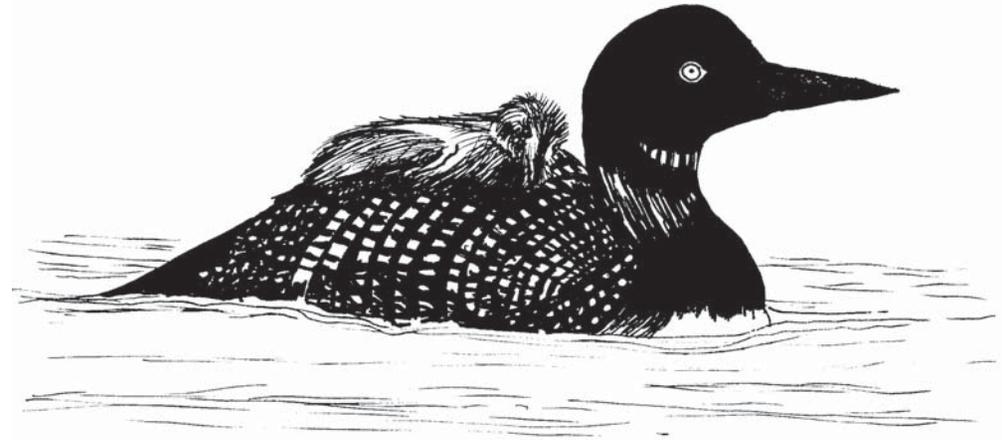
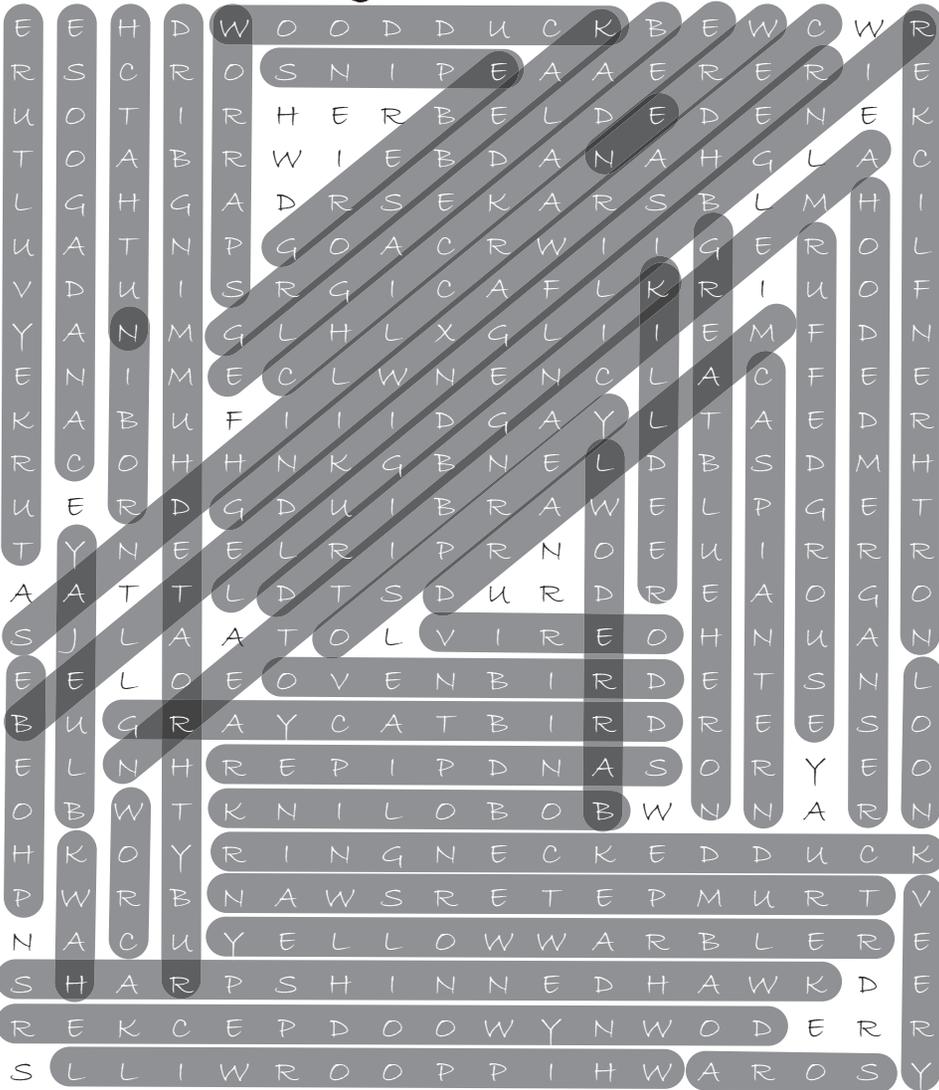
Food Web

Identify the carnivores:
1. Bald Eagle
2. Loon
3. Frog
4. Osprey
5. Otter
6. Great Blue Heron
7. Dragonfly
8. Fish
Identify the omnivores:
1. Crayfish
2. Mouse
3. Fish
4. Clam
5. Turtle
6. Mosquitoes
(drink blood but also feed on nectar)

Identify the herbivores:
1. Moose
2. Trumpeter Swan
3. Beaver
Identify the producers:
1. Grass
2. Cattails
3. Trees
4. Shrubs
5. Water Lily
6. Aquatic Plants



Birds of Seney Word Search Answers



This book belongs to:



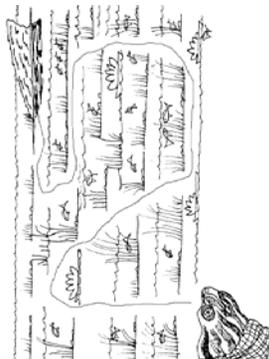
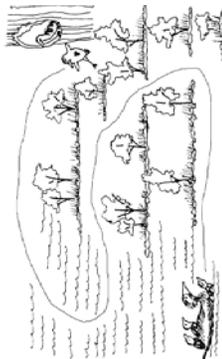
Place Refuge Stamps Here

Hidden Message: Where wildlife naturally wonders!

Seney Quiz

1. White Pine
2. Ruby-throated Hummingbird
3. Moose
4. Muskrat
5. Beaver
6. Sphinx Moth
7. Sandhill Crane
8. Shrew
9. Great Blue Heron

MAZES



BECOME A JR. REFUGE RANGER

To earn your badge and certificate, complete all the activities required for your age class. When you have completed all the requirements to become a Junior Refuge Ranger, bring your completed booklet to the Visitor Center, Seney National Wildlife Refuge. A staff member or volunteer will review the booklet with you and award you a certificate and badge.



AGE CLASSES

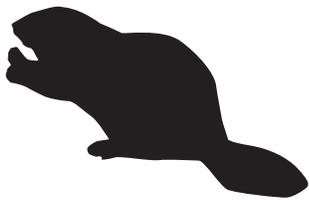
There are symbols located on the booklet activity checklist to show what ages the activity is best suited for.



Duck (ages 4-7)
Complete at least 6 activities



Fox (ages 8-10)
Complete at least 8 activities



Beaver (ages 11-13)
Complete at least 10 activities



Bat (14+)
Complete at least 12 activities

Check your answers

ALL ABOUT SENEY NWR

Crossword Answers



Woodpecker Tongues Answers:

- C Yellow-bellied Sapsucker
- A Hairy Woodpecker
- B Northern Flicker
- A Downy Woodpecker
- A Pileated Woodpecker
- A Black-backed Woodpecker

Animals in the keystone species picture that rely on beaver ponds:

- Goldeneye (Ducks)
- Belted Kingfisher
- Frogs
- 49 Turtles
- Muskrat
- Merganser (Ducks)
- Willow (Shrubs)
- Water Lily (Plants)

Animals in the keystone species picture that rely on pileated woodpeckers:

- Flying Squirrels
- Mergansers (or ducks)
- Goldeneyes (or ducks)
- Red Squirrels
- Bats
- Pine Martin
- Owls
- Woodpeckers
- Brown Creeper (or birds)
- Hawks

Unscramble

- Picture 1: Eagle
- Picture 2: Trumpeter Swan

Check your answers

Refuge Video Questions:

- All are correct answers
- Bald Eagle, Osprey, Common Loon.
- True
- Lots of possibilities

National Wildlife Refuge System

Trivia

- How many Refuges are in Michigan? 8
- How many Refuges are in your home state or territory (as of 2018)? **States** - AK - 16; AL - 11; Arkansas - 10; AZ - 8; CA - 38; CO - 8, CT - 2; DE - 2; FL - 30; GA - 9; HI - 11; ID - 6, IA - 7; IL - 10; IN - 3; KS - 4; KY - 1; LA - 24; MA - 11; MD - 5; ME - 11; MI - 8; MN - 22; MO - 10; MS - 14; MT - 23; NE - 8; NH - 5; NJ - 5; NM - 9; NV - 11; NY - 11; NC - 12; ND - 33; OH - 3; OK - 9; OR - 20; PA - 3; RI - 5; SC - 5; SD - 9; TN - 7; TX - 18; UT - 3; VA - 14; VT - 2; WA - 25; WI - 12; WY - 2; WY - 7. **Territories** - Northern Mariana Islands - 2; Guam - 1; Puerto Rico - 6; Minor Outlying Islands - 8; Virgin Islands - 3
- D. California
- All answers are correct.
- C. Kentucky
- True
- True

Visitor Center Scavenger Hunt

- 2 miles
- Projectile Pooping
- Possible answers: Mink frog, green frog, wood frog, spring peeper, and American toad.
- E. All of the above.
- 28 Days
- B. "Here I come." or "Come here."
- A. Common Loon and D. Red-winged blackbird (male and female)
- 42
- Possible Answers: White-tailed deer, beaver, or muskrat.
- Possible Answers: Yellow rails, bears, sandhill cranes, and grouse.
- Possible Answers: Otters, beaver, or bat.
- Angler/Human
- C. Emissions from coal-fired power plants.
- Barred Owl
- Brown Bullhead
- Manistique River
- Big Oaks NWR, Muscatatuck NWR, or Patoka River.
- Yes
- 4
- No
- Osprey

Jr. Ranger Badge Checklist

Activities

- | | | | |
|---|----|---|-------|
| <input type="checkbox"/> "The Wonder of Nature" Movie
 | 6 | <input type="checkbox"/> Record Your Wildlife Observations
 | 26 |
| <input type="checkbox"/> Refuge Map
 | 7 | <input type="checkbox"/> Birds of Seney: Word Search
 | 28 |
| <input type="checkbox"/> Fun Refuge Facts
 | 8 | <input type="checkbox"/> Mysterious Monarchs
 | 30 |
| <input type="checkbox"/> National Wildlife Refuge System Trivia
 | 9 | <input type="checkbox"/> Hidden Wildlife
 | 32 |
| <input type="checkbox"/> Pine Ridge Nature Trail Search
 | 10 | <input type="checkbox"/> Journal Page: Camouflage
 | 33 |
| <input type="checkbox"/> Marshland Wildlife Drive Search
 | 11 | <input type="checkbox"/> unscramble the drawing
 | 34 |
| <input type="checkbox"/> Visitor Center Scavenger Hunt
 | 12 | <input type="checkbox"/> unscramble the drawing
 | 35 |
| <input type="checkbox"/> Woodpecker Tongue Match
 | 16 | <input type="checkbox"/> Journal in the rings of a tree stump.
 | 36 |
| <input type="checkbox"/> Journal Page: Woodpeckers
 | 17 | <input type="checkbox"/> Do you haiku?
 | 37 |
| <input type="checkbox"/> All About the Refuge Crossword
 | 18 | <input type="checkbox"/> Food Web
 | 38 |
| <input type="checkbox"/> Journal Page: Draw or write what you see.
 | 21 | <input type="checkbox"/> Journal Page: Animal Signs
 | 40 |
| <input type="checkbox"/> Keystone Species: Beaver
 | 22 | <input type="checkbox"/> Can You Guess?
 | 41 |
| <input type="checkbox"/> Keystone Species: Pileated Woodpecker
 | 23 | <input type="checkbox"/> Seney Mazes
 | 42 |
| <input type="checkbox"/> Journal Page: Beaver or Muskrat
 | 25 | <input type="checkbox"/> Journal Page: Insects and Spiders/Wildflowers
 | 43-44 |
| | | <input type="checkbox"/> Coloring Pages
 | 45-46 |

Refuge Video

The Wonder of Nature



I am in the Duck Age Class and I watched the video - you do not need to complete the rest of the page

1. My favorite thing about the video was: _____

2. In 1935 the Refuge was established. The Civilian Conservation Corps (CCC) helped build the refuge. Check the things they helped build on the Refuge.

- Roads
- Pools
- Water Control Structures
- Bridges
- Levees
- Buildings

3. Circle the birds mentioned in the video that eat fish. Bald Eagle, Mallard, Osprey, Hummingbird, Common Loon, Red-breasted Nuthatch

4. True or False - Prescribed fires are an important management tool used to help keep habitats healthy on the Refuge.

5. Name 5 plants or animals you saw in the video.

_____, _____, _____,
_____, and _____.

Seney National Wildlife Refuge Junior Ranger Pledge

Take the pledge. Place one hand on a nature guide and the other on your heart. Repeat after the official.

As a Jr. Refuge Ranger I promise to share the information I learned about Seney National Wildlife Refuge and nature. I promise to help preserve and protect natural places so that future generations can enjoy them.

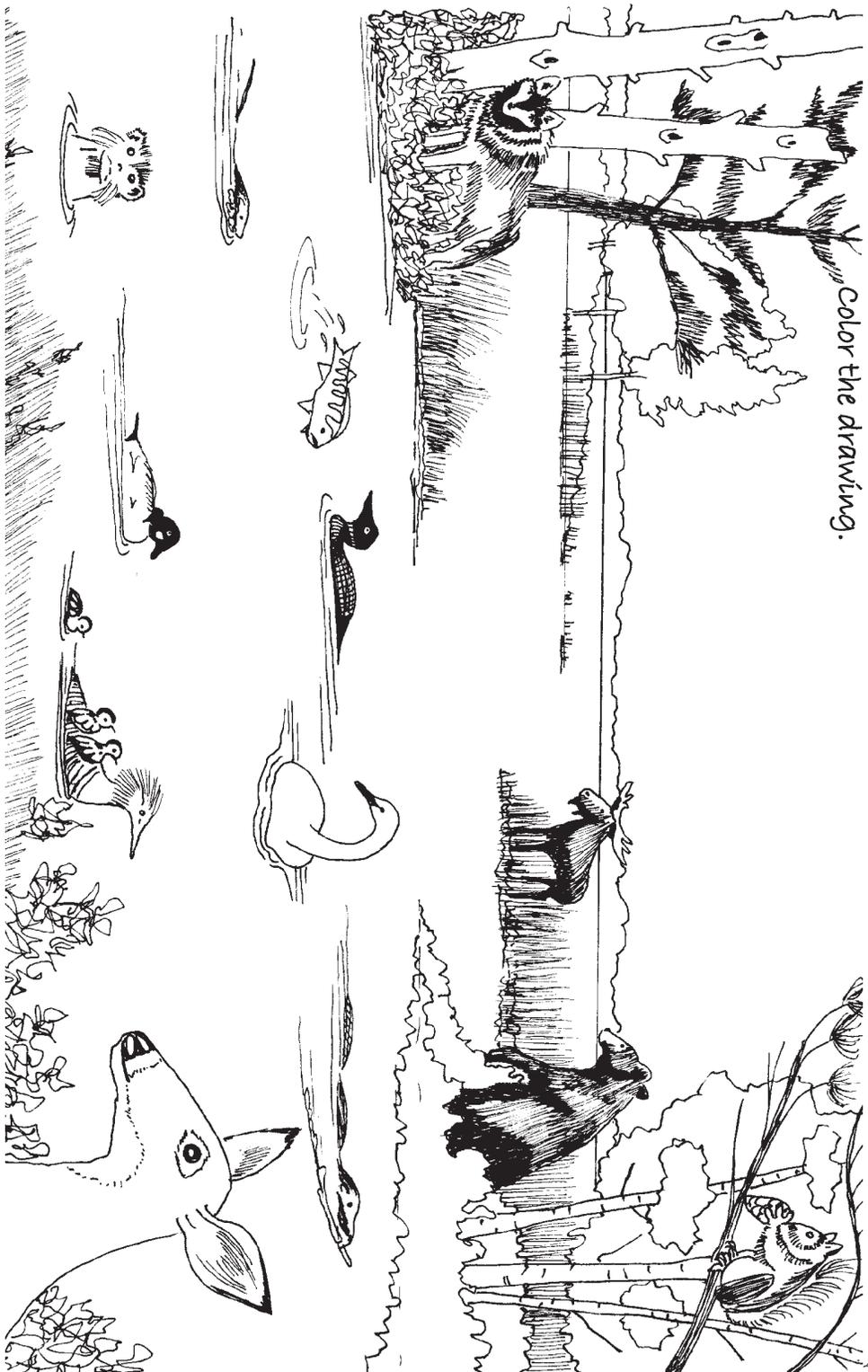
I promise not to litter. I will not feed or disturb wildlife, pick plants, or take anything living or non-living from the refuge except pictures and memories.

I promise to continue to explore the Refuge or other natural areas near my house. I will continue to ask questions, explore nature, and think about what I find.

Your Signature _____

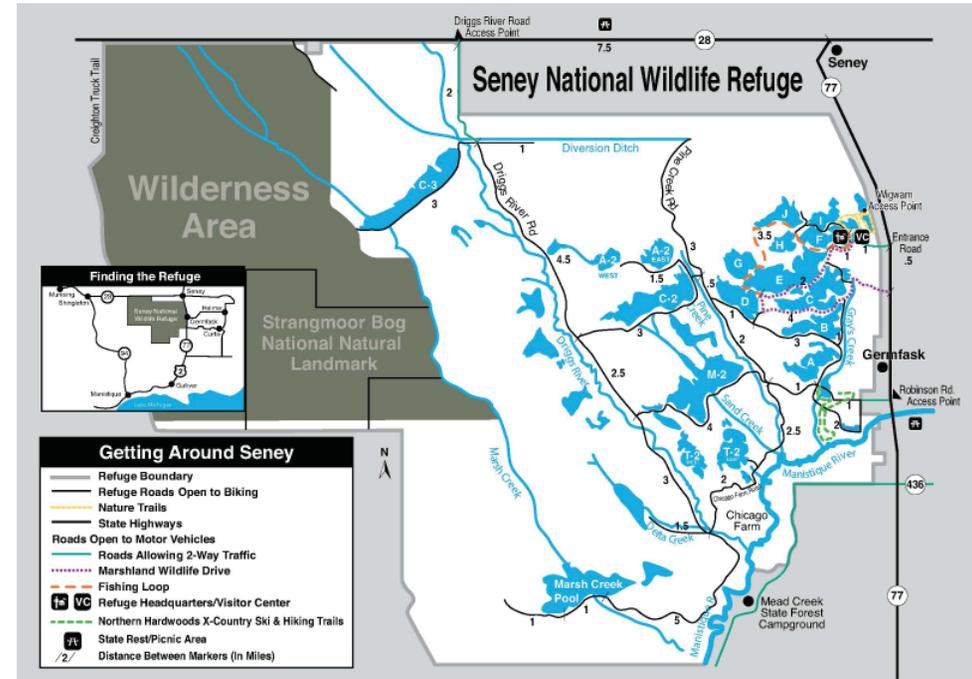
Staff Signature _____





Color the drawing.

Refuge Map

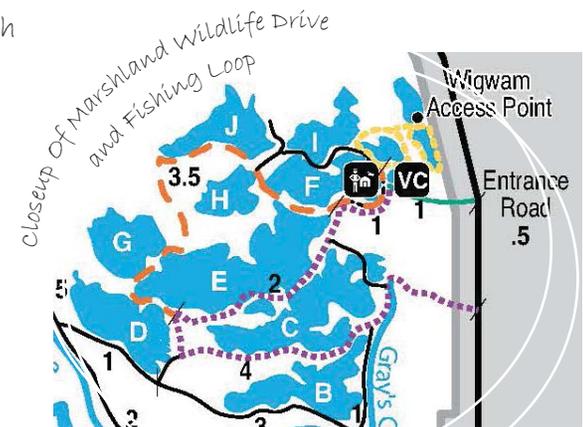


Where did you go? Trace your route on the map.



Check which habitats you got to see.

- ___ A forest with a lot of evergreen trees (trees with needles)
- ___ A forest with a lot of deciduous trees (trees with leaves)
- ___ A mixed forest - has both
- ___ A wetland
- ___ Lots of shrubs
- ___ A pool
- ___ Meadow



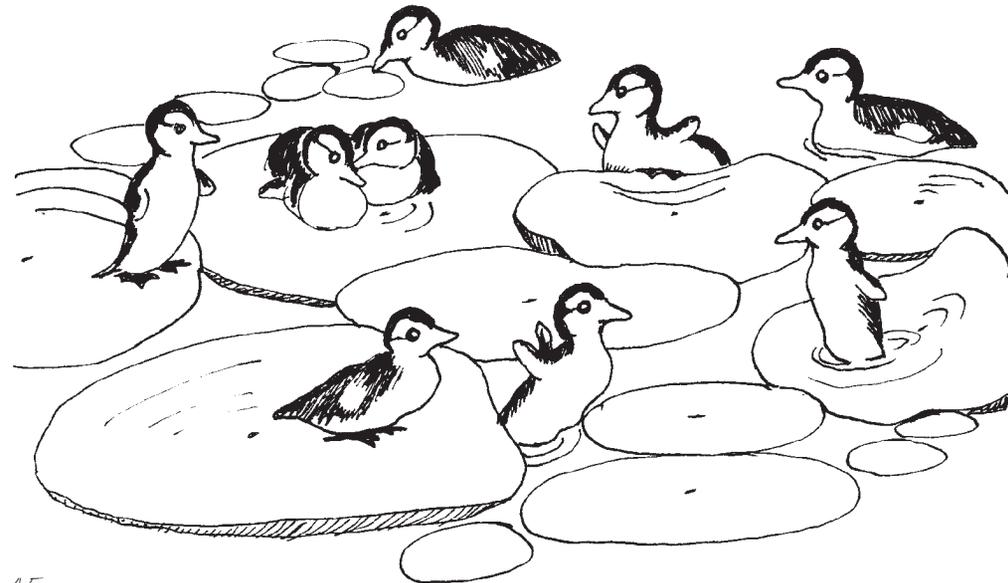
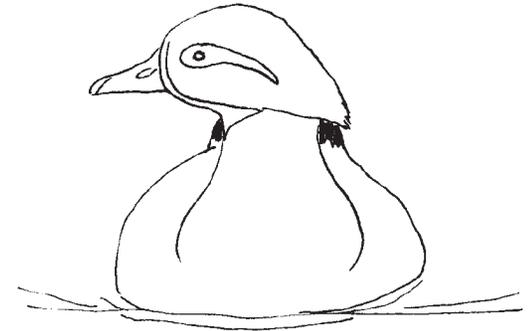
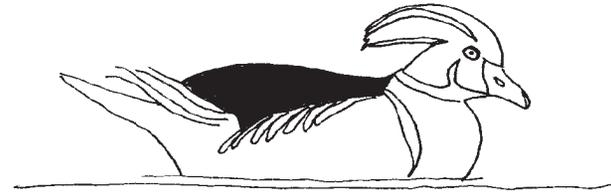
Fun Refuge Facts

- ↻ A baby trumpeter swan is called a cygnet.
- ↻ Frogs don't drink water through their mouths, they absorb it through their skin.
- ↻ The oldest loon of known age lives here at Seney National Wildlife Refuge. He was banded here as a chick in 1987. Loon's don't necessarily mate for life, but he has had the same mate for over 20 years.
- ↻ SCAT: What scientists call animal poop. A person who studies animal scat is called a scatologist. Do you want to be a scatologist when you grow up?
- ↻ Beauty and the Ick. Scat, mud, pee, blood, tears, and decaying flesh all attract some kinds male butterflies and moths! This is called mud-puddling and they are in search of salts and amino acids to help with reproduction.
- ↻ A baby sandhill crane is called a colt.
- ↻ Moth's that look like a hummingbird? We have them, they are called hummingbird clearwing moths or sphinx moths.
- ↻ Normally turtles breath air and can hold their breath for a long time, but in the winter they survive in the water, under the ice. How can they hold their breath that long? They don't. They "breath" using their butt! That's right, they have special cells on their cloaca where they can exchange oxygen which helps them survive in the winter.
- ↻ The mother sac spider folds the tip of a cattail leaf into triangular home for her spiderlings. She makes the ultimate sacrifice as their first meal. (See page 10 for a picture).

Add some of your own Refuge Fun Facts:

- ↻
- ↻

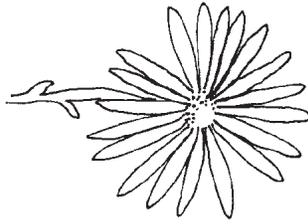
Color the wood ducks.



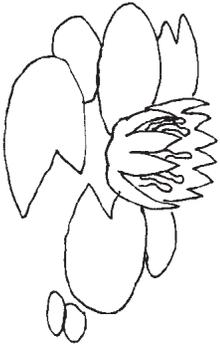
National Wildlife Refuge System Trivia

Look at the back of this booklet for a map of the National Wildlife Refuge System.

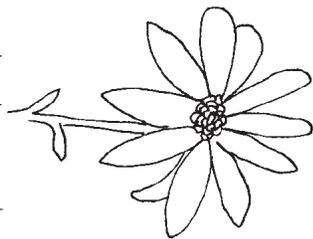
1. How many Refuges are in Michigan? _____
2. How many Refuges are in your home state or territory? _____
3. Which State has the most National Wildlife Refuges?
 - A. North Dakota
 - B. Iowa
 - C. Texas
 - D. California
4. Why are refuges created? Choose all that apply.
 - To protect Federally Threatened and Endangered Species
 - To conserve habitat
 - Conserve unique or rare ecosystems
 - Protect migratory birds
 - Protect wildlife
5. Which state has the least National Wildlife Refuges?
 - A. Tennessee
 - B. Utah
 - C. Kentucky
 - D. Rhode Island
6. True or False - U.S. Territories also have National Wildlife Refuges.
7. True or False - If you put all of the National Wildlife Refuge System lands into one place they would take up almost as much space as Texas.



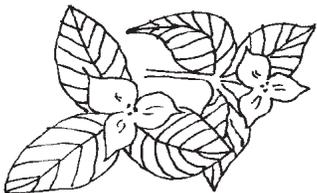
Aster



Water Lily



Black-eyed Susan



Trillium

Journal Page: Draw or write about the different species of wildflowers you see. What color are the flowers? Where did you see them? In the forest, wetland or open area? Please do not pick the flowers - take only memories, leave only footprints.

Pine Ridge Nature Trail

How many of these plants and animals can you find along the nature trail?



Chipmunk
by Sara Giles



Osprey
by John Hysell



Whirligig Beetle
by Sara Giles



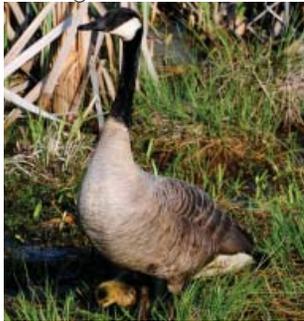
White Water Lily
by Anna Cartmill



Damselfly
by Barbara Hysell



Dragonfly
by John Hysell



Canada Goose
by John Hysell



Sac Spider
by Sara Giles

See page 8 for more info.



Mushroom
by Sara Giles



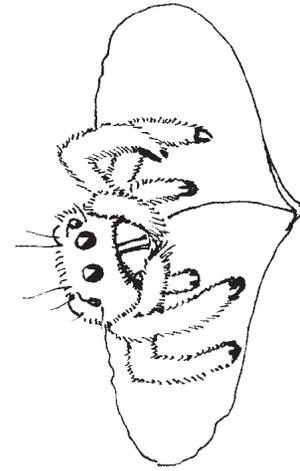
Gray Catbird
by Dawn Marsh



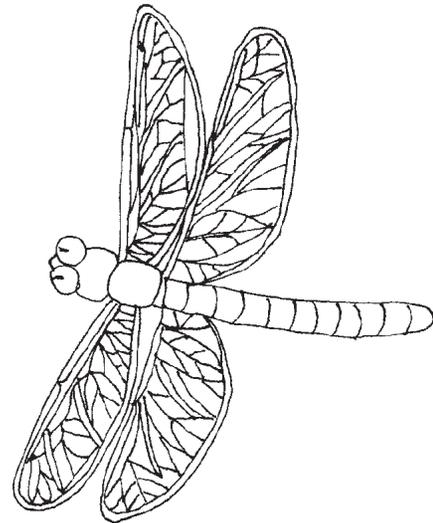
Calla Lily
by Sara Giles



Fern
by Dawn Marsh



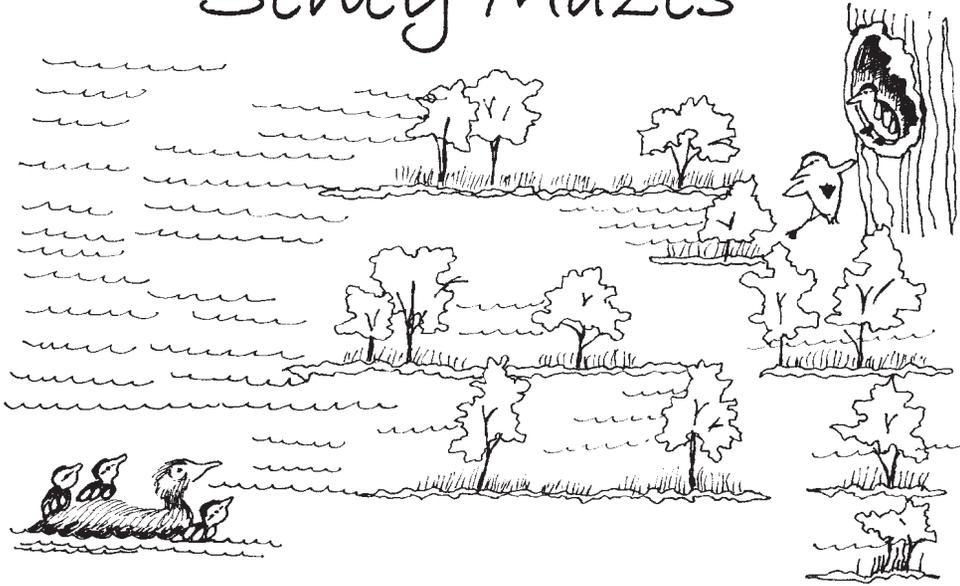
Jumping Spider



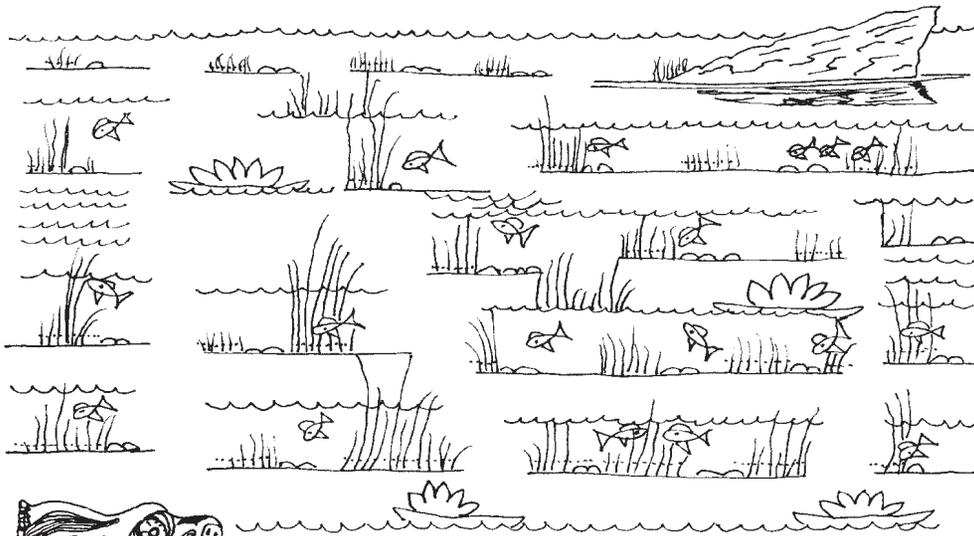
Dragonfly

Journal Page: Insects have three pairs of legs and the body is segmented into three parts (head, thorax and abdomen). Most insects have wings. Spiders have four pairs of legs and the body is segmented into two parts (head and abdomen). Spiders spin silk. Draw or write about the insects and spiders you see.

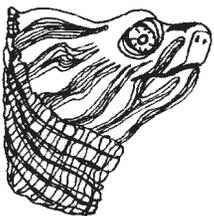
Seney Mazes



Can you help the wood duck duckling cross the wetlands through the pond to its family?



Can you help the painted turtle to find a sunny log to warm itself?



Marshland Wildlife Drive

How many of these plants and animals can you find along the drive?



Common Loon
by Sharon Patteri



Muskrat
by Sara Giles



Trumpeter Swan
by Angie Multhup



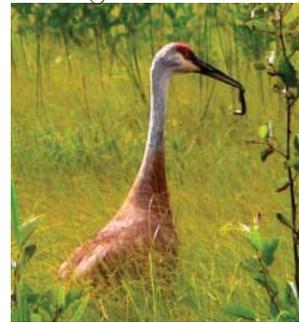
Bald Eagle
by Mark Wilson



Wood Duck
by Teresa McGill



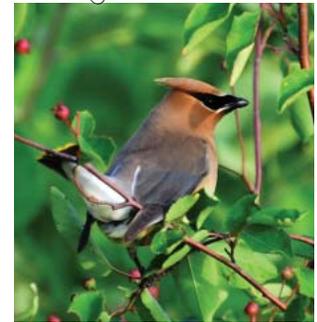
Merganser
by Teresa McGill



Sandhill Crane
by John Hysell



Belted Kingfisher
by Teresa McGill



Cedar Waxwing
by Barbara Hysell



Monarch
by Anne Chase



Painted Turtle
by April Payne



Beaver
by April Payne

Visitor Center Scavenger Hunt

- How far away can a bald eagle spot its prey? (Eagle Display Q 1 & 2) _____
- Since bald eagles don't use diapers, how do they keep their nest clean? _____
- List 2 amphibians on the "Songs of Seney" display.
_____ and _____.
- What do loons eat? (Loon Diorama Q 4, 5, 6, & 7)
 - Fish
 - Aquatic Insects
 - Crayfish
 - Leeches
 - All of the Above
- How many days does it take for a loon egg to hatch? _____
- What does it mean when a loon wails?
 - "Get out of here!"
 - "Here I come." or "Come here."
 - "Where are you?"
- What are the birds in the loon display? (choose all that apply)
 - Common Loon
 - Sandhill Crane
 - Bald Eagle
 - Red-winged blackbird (male and female)
- How many teeth does a coyote have? (Wolf vs. Coyote Display) _____
- Name two mammals found on the "Sights of Seney" display?
_____ and _____

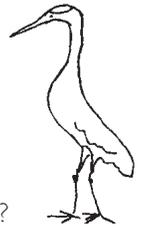


MUSKRAT

Seney

Can You Guess?

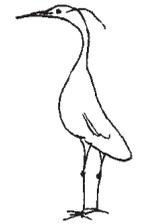
- I can live to be over 400 years old. What am I?
- I am the smallest bird on the Refuge. What am I?
- I am the largest mammal on the Refuge. What am I?
- I am an excellent swimmer, expert tunnel digger and have a long, skinny, hairless tail that helps give me my name. What am I?
- I am very busy. I may dig canals to make transporting big trees easier after I cut them down. What am I? (P.S. I have webbed back feet.)
- I have been mistaken for a hummingbird but I am an insect. What am I?
- I am the tallest bird on the Refuge. It flies with its neck straight out. What am I?
- Members of my family are venomous, our bite may paralyze insects, earthworms and other small animals. What am I?
- A tall bird that stalks its prey on the pond's edge before striking a fish or frog quickly. It flies with its neck tucked in. What am I?



SANDHILL CRANE



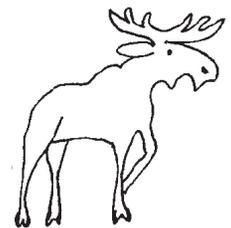
WHITE PINE



GREBE



RUBY-THROATED HUMMINGBIRD



MOOSE

Need help? Look at the pictures...



SHREW



SPHINX MOTH



BEAVER

10. Name an animal helped by prescribed burning. (Managing for Wildlife Display) _____
11. Name an animal that comes out at dusk. (So Where's the Wildlife Display) _____
12. Watch the video "What does mercury do?" Who ends up with the most contaminated meal? (air quality display @ 12 & 13) _____
13. What particles have the greatest effect on visibility?
 - A. Emissions from cars.
 - B. Wind blown dust, soot, and smoke.
 - C. Emissions from coal-fired power plants.
 - D. Natural elements like rain and fog.
14. Who is going to eat the star-nosed mole? (Owl Display - Look up) _____
15. Name the fish with whiskers. (Fish Display) _____
16. What River can you canoe on? (Refuge Map) _____
17. Name a National Wildlife Refuge in Indiana. (National Wildlife Refuge System map) _____
18. Are a muskrat's and beaver's teeth the same color? (Touch Table) Yes or No
19. How many toes does a bald eagle have? (Track Pit or Eagle Display) _____
20. Do raccoons' front and back feet look alike? (Track Pit) Yes or No
21. What bird's nest can you see through the spotting scope? _____



Track



Scat



Pellets



Hole in the ground



Fur



Feather



Midden Heap



Nest

Journal Page: Tracks, fur, feathers, scat, pellets (regurgitated balls of fur and bone), midden heaps (scraps from a meal), holes in the ground or nests are all signs of animal activity. Draw or write about what you found. What made it?

The Whacky Wild

Pileated woodpeckers whack two types of holes. Oval shaped holes are for nesting or roosting. Roosts have multiple openings for emergency exits; nests have only one. Deep rectangular holes are made to forage for insects. Their abandoned holes are important to wildlife. They become homes to many kinds of animals, including flying squirrels, pine martens, ducks, and owls.

Yellow-bellied sapsuckers drill square or dot shaped holes, known as sap wells. Sap collects in the wells and attracts insects which get stuck. Both are food for the woodpecker. The sap wells also attract ruby-throated hummingbirds that depend on the sap, especially in the spring before flowers bloom.



14

39

Look at the picture above. Write down who eats what.

Identify the carnivores:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

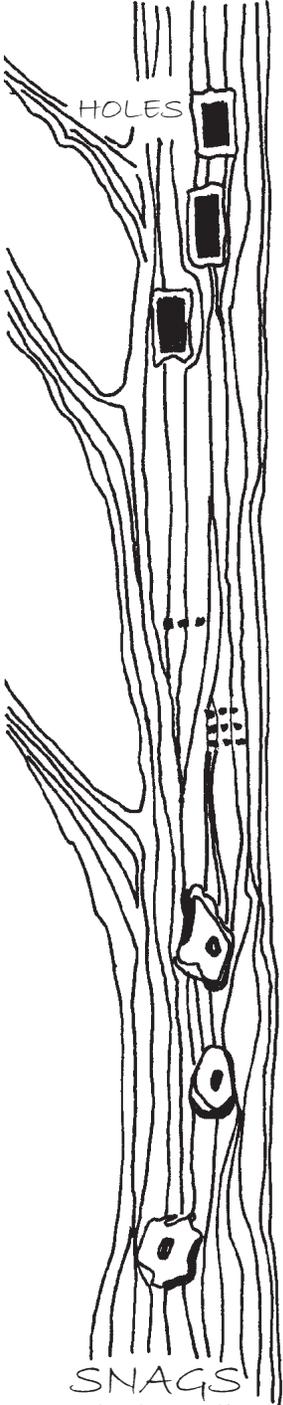
Identify the herbivores:

1. _____
 2. _____
 3. _____
- Identify the producers:
1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____

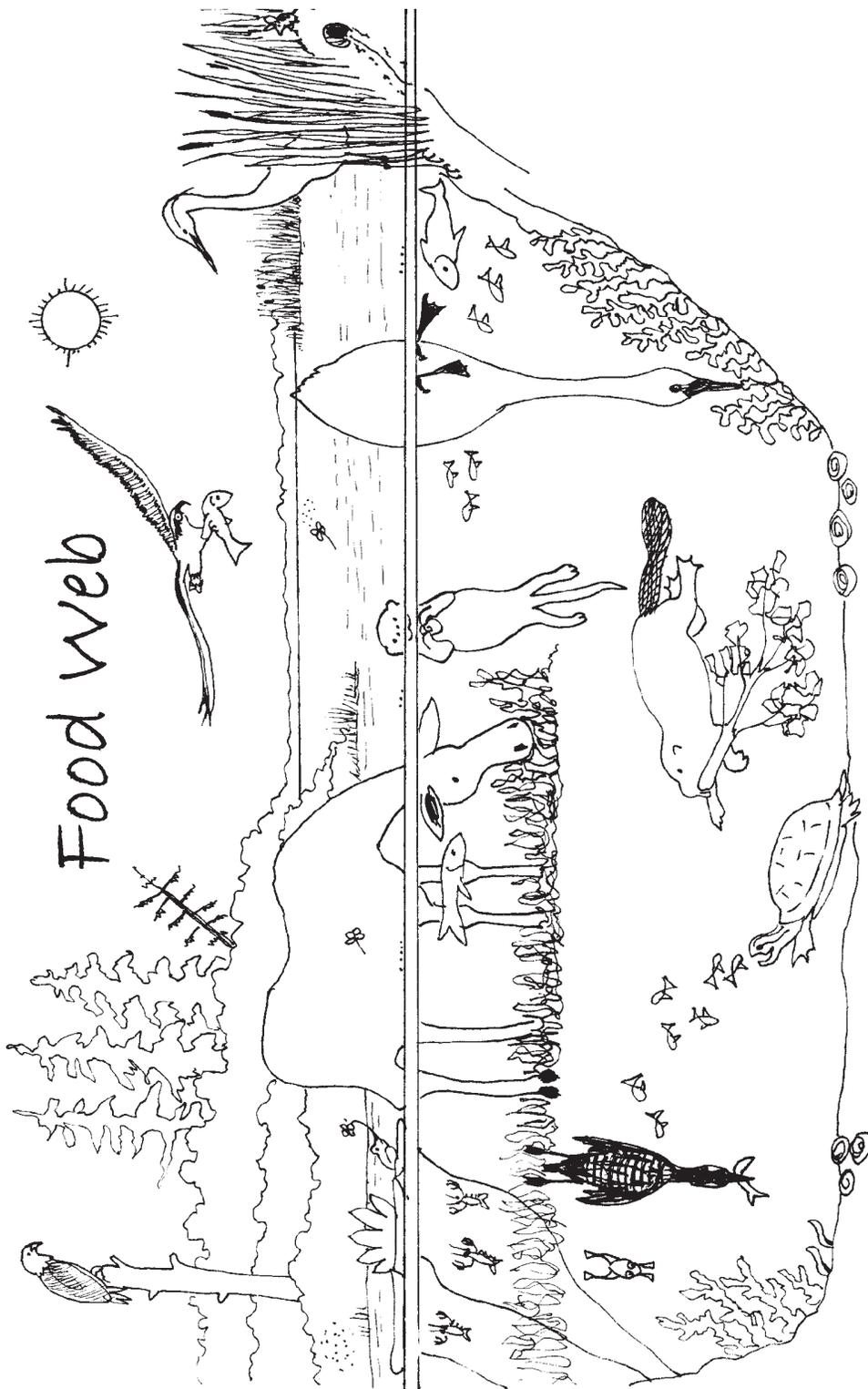
Producers are organisms that make their own energy. Examples of producers include trees, grass, flowers, and other plants.

Identify the omnivores:

1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____
- Need help? Here are the names of the animals in the picture.
- | | | | | | | | |
|------------|------------------|-------|----------------|-----------|------------|----------------|----------------|
| Bald Eagle | Great Blue Heron | Otter | Osprey | Dragonfly | Mosquitoes | Aquatic Plants | Trumpeter Swan |
| Crayfish | Frog | Loon | Fish (2 times) | Trumpeter | Swan | Mouse | Clam |
| Turtle | Beaver | Grass | Cattails | Trees | Shrubs | | |
| Water Lily | | | | | | | |



SNAGS are dead standing trees which are important to woodpeckers and other wildlife.



Food Web

World of Seney's Woodpeckers

Downy and hairy woodpeckers look a lot alike but the hairy is bigger and has a longer beak. Both birds make round • holes in trees but the downy makes small holes (1/4" to 3/8") while the hairy makes small to larger holes (3/16" to 3/4"). The downy is the smallest woodpecker at Seney NWR. Because it's smaller and lighter than other woodpeckers, it can search for food where other woodpeckers cannot - such as on or in stems of plants. To find signs of the downy, look for holes whacked in goldenrod galls and on birch trees for "trap doors"  where they have pried up the bark looking for insects hiding underneath.

Black-backed woodpeckers love burned trees, especially jack pine. Look for them in an area that has seen recent fire. The woodpeckers scrape the bark off the trees or drill • round holes looking for the insects that feed on the dead or dying burned trees. This woodpecker is hard to find. Many people visit the Refuge to try to see one. If you see one, you are very lucky!

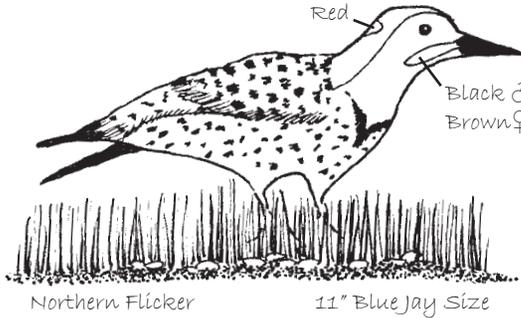


ORE

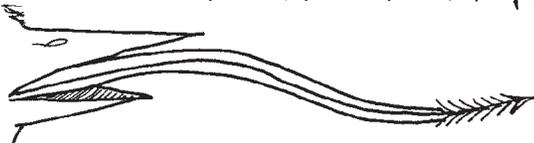
WONDERFUL WOODPECKER FACTS

Northern flickers are more a ground-pecker than a woodpecker. While they can climb trees and hammer wood like other woodpeckers, they prefer to look for their food on the ground. They are often seen on roadsides searching

for ants and other insects. Watch for them as you drive. They show off a white rump patch as they fly away.



CAN YOU MATCH THE WOODPECKER TO ITS TONGUE?

A. 
Long, sticky and barbed to spear and extract insects from crevasses.

- Yellow-bellied Sapsucker
- Hairy Woodpecker

B. 
Long, sticky and blunt, good for probing the ground.

- Northern Flicker
- Downy Woodpecker

C. 
Long, brush tipped, good for lapping sap.

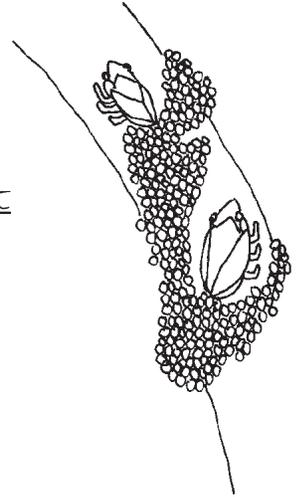
- Pileated Woodpecker
- Black-backed Woodpecker

Do you haiku?

Haiku is a form of poetry. It is an un-rhymed, syllabic form of writing adapted from the Japanese. It is written with 3 lines; the first line has 5 syllables, the second line has 7 syllables, and the third line has 5 syllables. Draw pictures to accompany your drawing in the margins.

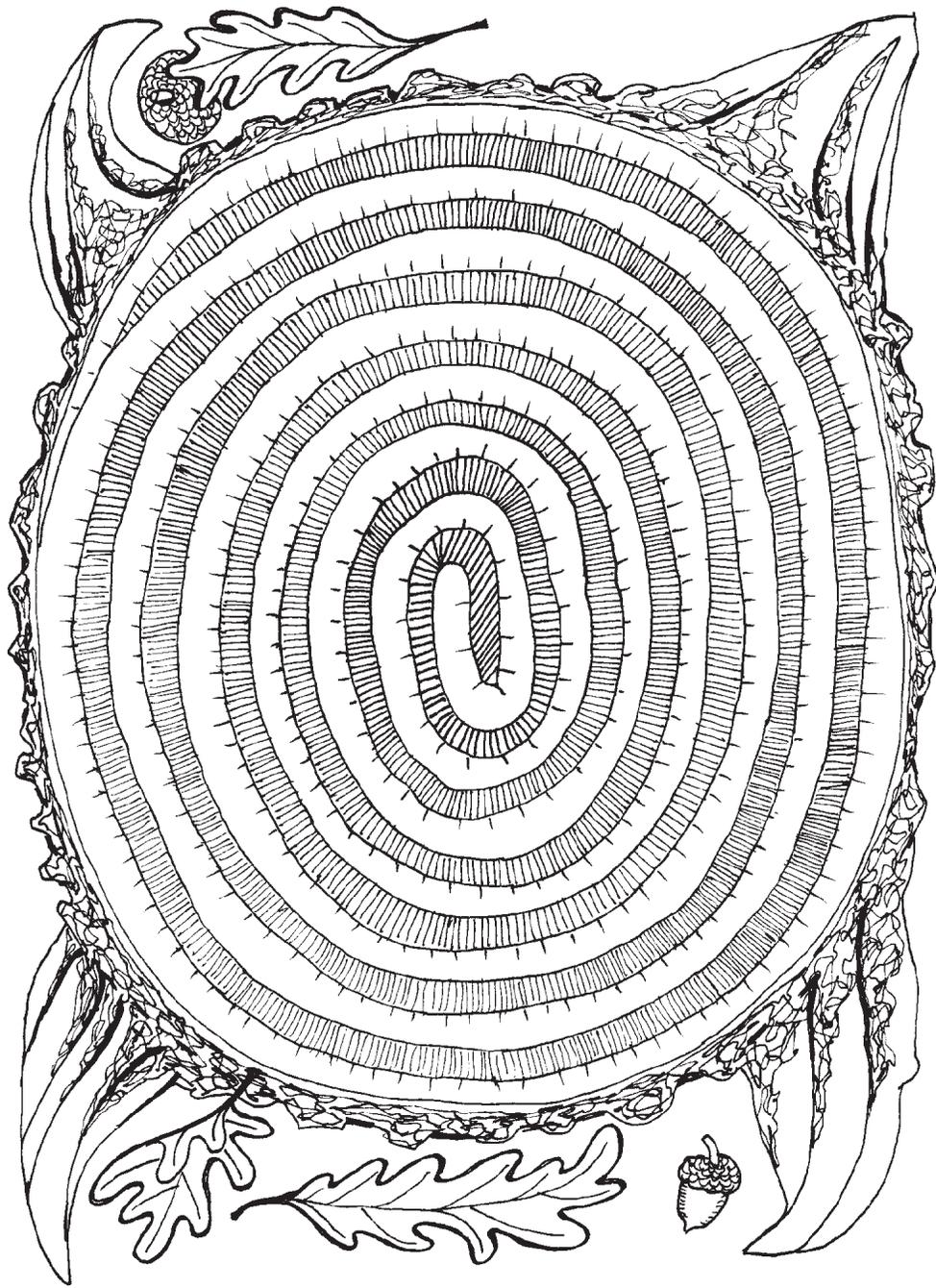
EXAMPLE

Lit-tle spit-tle-bug
blow-ing bub-bles with your butt
Bub-bles help hide you



Your haiku:

Your haiku:

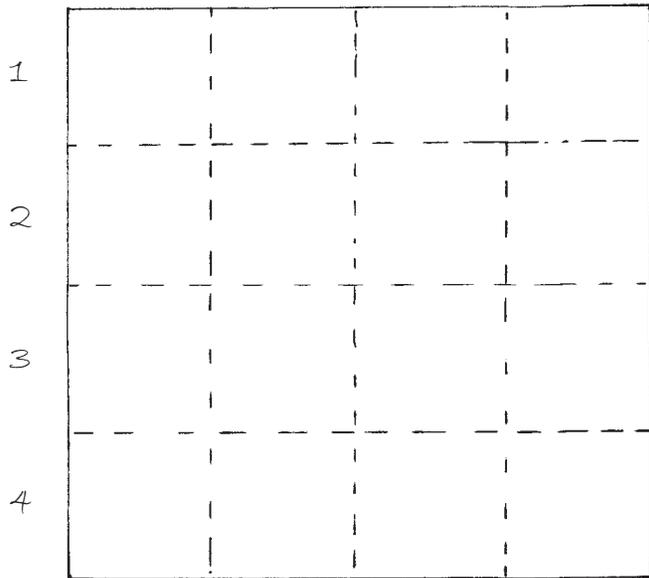
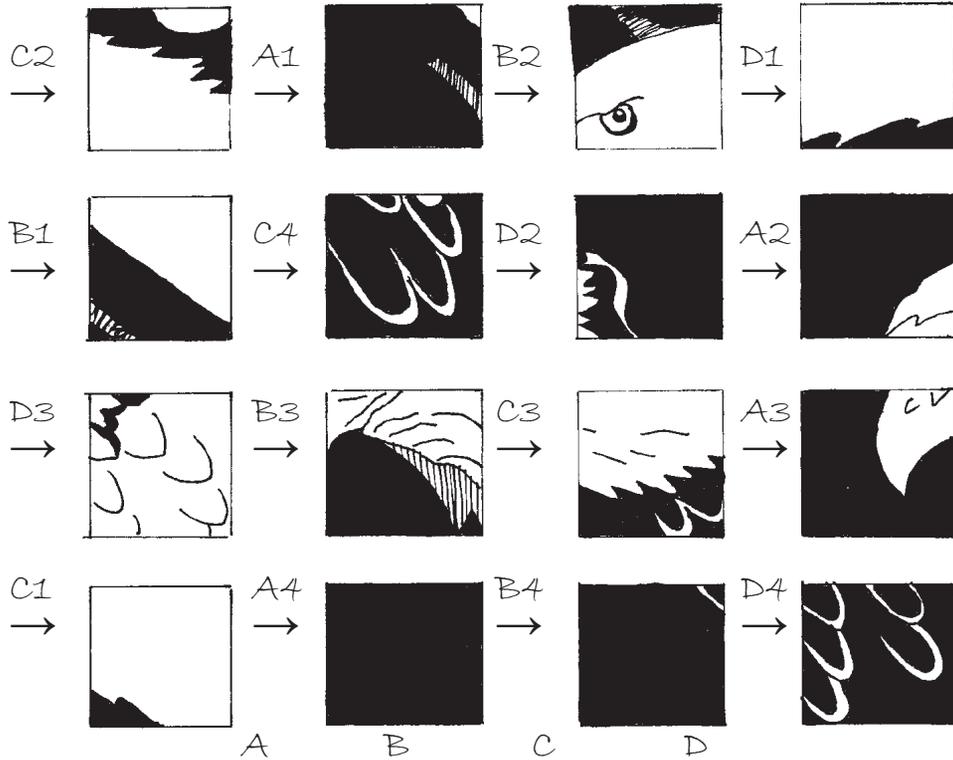


Journal in the rings of a tree stump. Write about one thing you saw at Seney, that you plan to always remember. Start in the center.



Journal Page: Draw or write about your observations of woodpeckers, their holes or other signs of woodpeckers you found.

Redraw each square into the matching square below to unscramble the drawing.



What did you draw? _____

poison.
 17 Pupa of a butterfly.
 19 A mammal that frequents the water, is inquisitive, playful, and can often be found in groups. Sometimes, it is mistaken for a beaver or a muskrat.

20 The type of plant a monarch caterpillar munches.
 22 Moth that is mistaken for a hummingbird.
 23 Smallest woodpecker at Seney.

24 Monarch mimic.
 25 Rodent often seen swimming in Seney's pools, its tail making an S shape as it moves through the water.

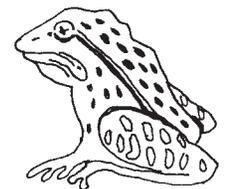
DOWN

1 A place reserved for wildlife.
 2 A home to many organisms - downed tree trunk or large branch.
 3 A word that means a specific type of animal.
 4 Second stage of a butterfly's existence.

5 To watch something.
 9 Place where a bird or bat sleeps.
 11 A word meaning wild animals.
 12 A secondary user of a pileated woodpecker nest or roosting hole _____ squirrel.
 14 Largest woodpecker at Seney.
 18 A species that has a disproportionately large effect on its environment is a _____ species.

20 A butterfly that migrates all the way to Mexico for the winter.
 21 Highly valued by wildlife - dead standing tree.

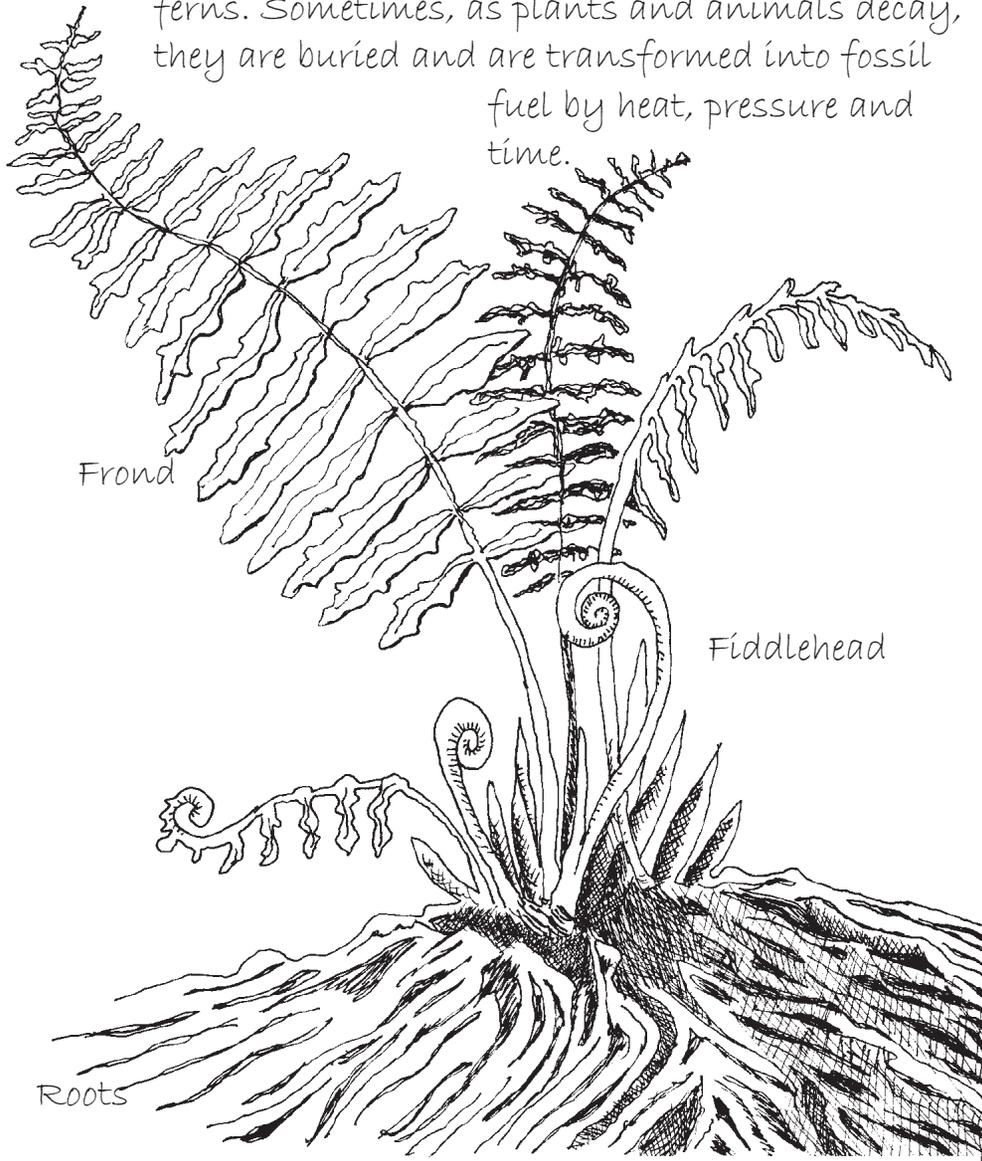
22 A small, voracious insectivore with a pointy nose.
 23 Large, hoofed animal.



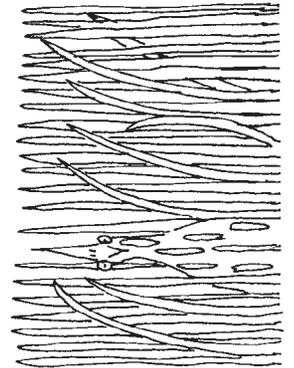
Stumped? Read the booklet to find clues.

Fun Fern Facts

- ↪ Ferns do not have seeds. They reproduce by producing spores.
- ↪ Many ferns grow where other plants can't because it is too wet, too shady, there isn't enough dirt, or the dirt is too acidic.
- ↪ Fossil fuels, like coal and gas, are mostly old ferns. Sometimes, as plants and animals decay, they are buried and are transformed into fossil fuel by heat, pressure and time.



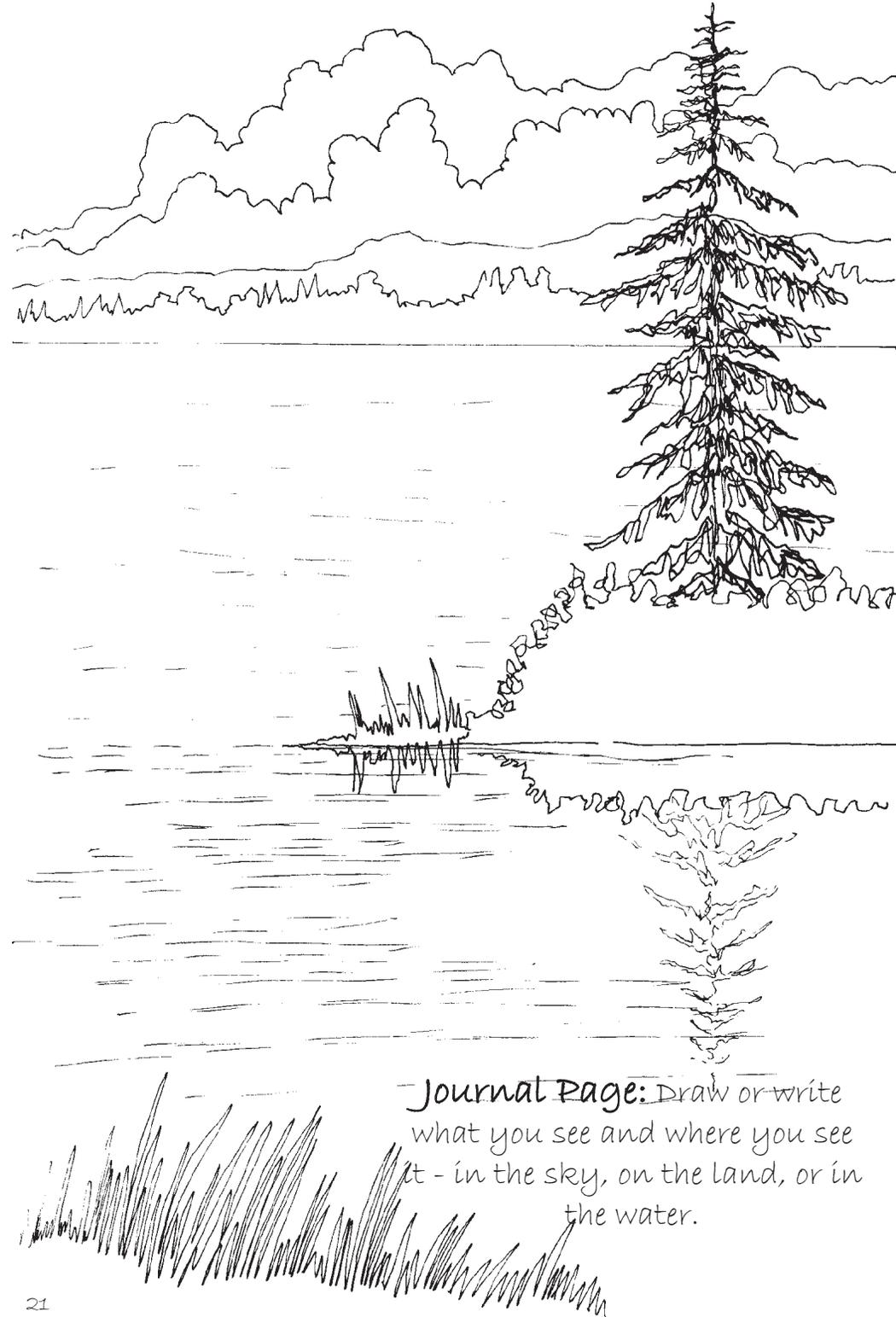
Journal Page: What animal did you almost miss seeing because it was camouflaged? Draw or write about it.



American Bittern

Hidden Wildlife

Can you find 34?

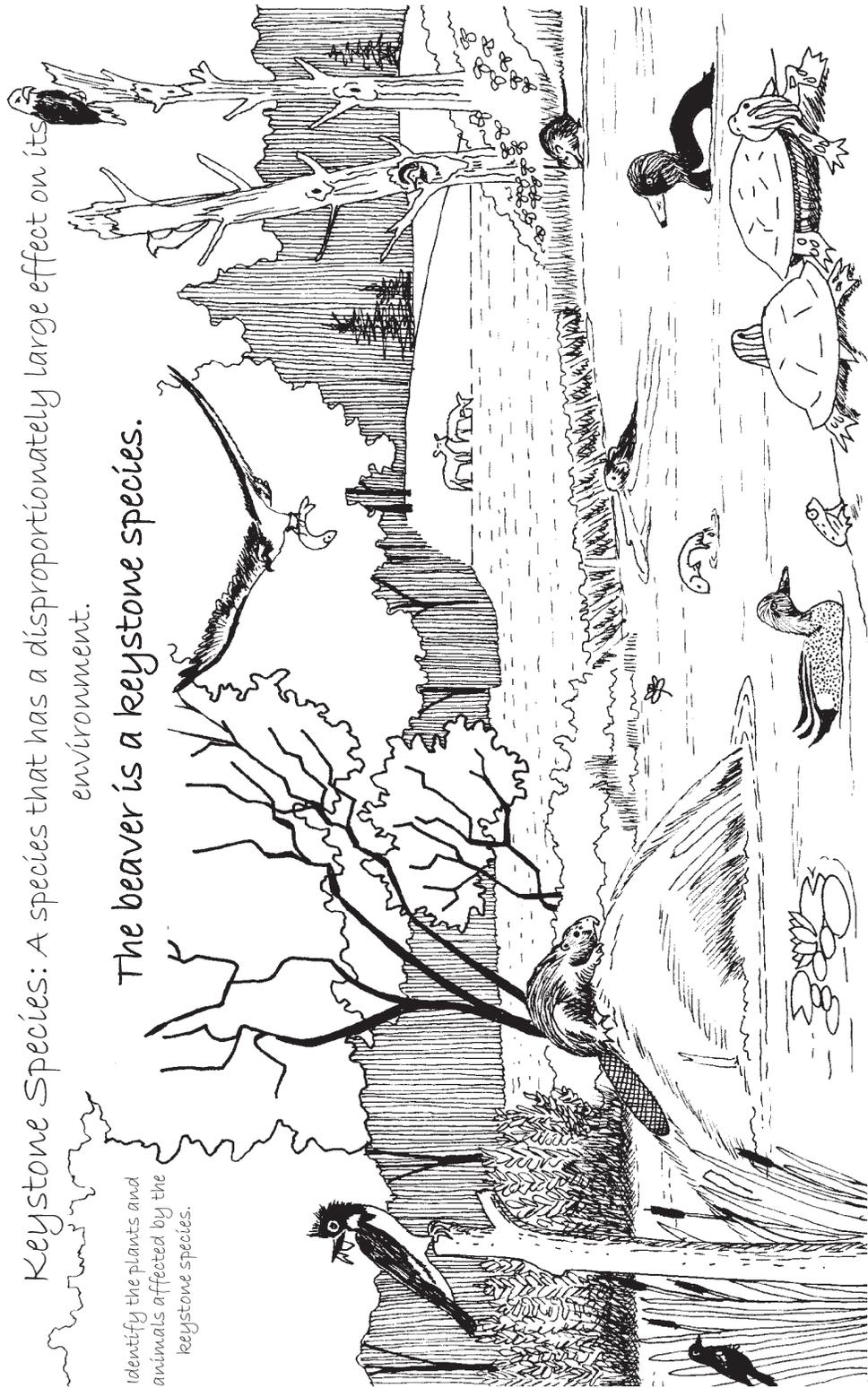


Journal Page: Draw or write what you see and where you see it - in the sky, on the land, or in the water.

Keystone Species: A species that has a disproportionately large effect on its environment.

The beaver is a keystone species.

Identify the plants and animals affected by the keystone species.



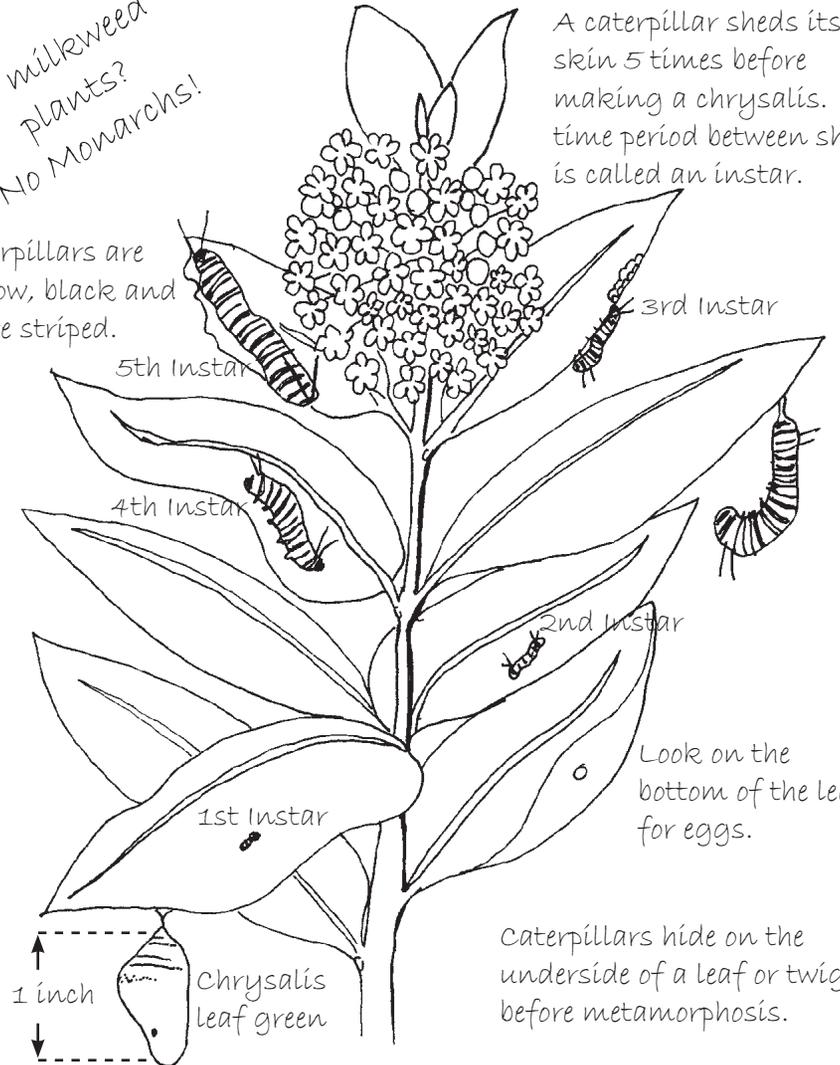
Milkweed Plant

Can you find the Refuge milkweed patches? Observe a patch. Can you find any monarch eggs, caterpillars or chrysalises?

No milkweed plants?
No Monarchs!

Caterpillars are yellow, black and white striped.

A caterpillar sheds its skin 5 times before making a chrysalis. The time period between sheds is called an instar.



Look on the bottom of the leaf for eggs.

Caterpillars hide on the underside of a leaf or twig before metamorphosis.

- Seney has two types of milkweeds: swamp and common. The common milkweed has dusty, rose-colored flowers and wide, light green leaves. The swamp milkweed flowers are dark purple and it has narrow, dark green leaves.
- Mature plants are 3 to 4 feet tall.

Mysterious Monarchs



Am I a monarch or an impostor?

Did you know?

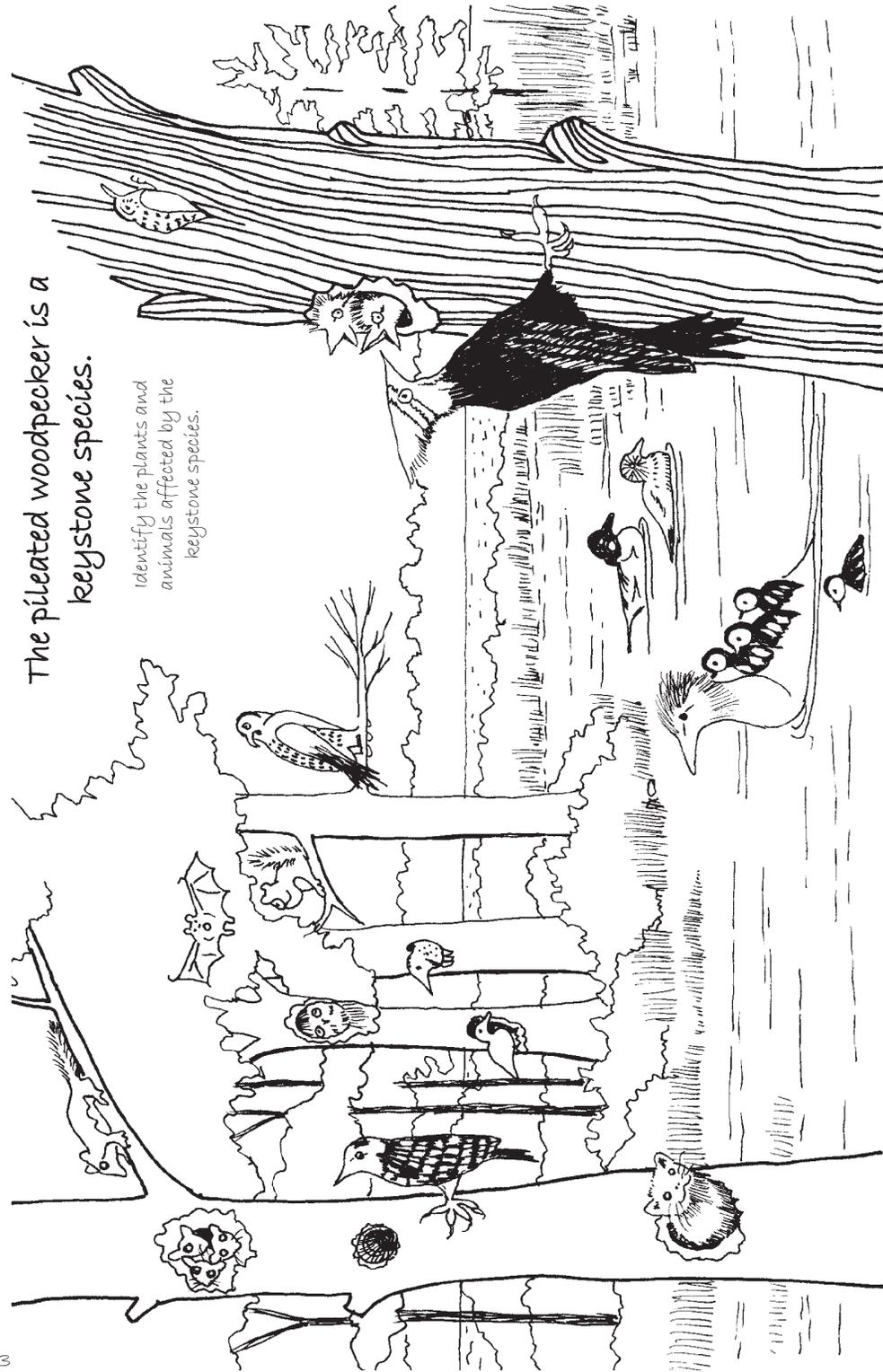
- ✦ Milkweeds are the host plant of the monarch butterfly. They are the only kind of plant a monarch can eat as a caterpillar. Without them, the caterpillar will die.
- ✦ The milkweed plants' stems, leaves and flowers contain a poisonous sap monarchs can tolerate. When monarch butterflies caterpillars eat the plants, the toxin, which does not make the butterfly sick, stays in their bodies for their entire lives making them poisonous.

- ✦ Because monarchs are poisonous - most, but not all, predators will get sick after eating a monarch and will not repeat the experience. Some predators will teach their offspring that monarchs are not good to eat, while other predators will have to learn on their own. Have you ever eaten something that made you sick? Would you eat it again?
- ✦ The viceroy is a monarch impostor. Scientists think they look like monarchs so that predators will not want to eat them, but they are not poisonous.
- ✦ In recent years, the monarch population has been in decline. People are taking over their habitat and changing it. Monarchs are having trouble finding their host plant - milkweeds. Think about all the land that is taken over by cities, towns, roads, and farms. These things are not necessarily bad, but we need to remember to leave homes for animals too!
- ✦ How can you help? Plant milkweed and nectar plants in your yard!



To identify the monarch impostor look for a black band on its hind wing.

Top: Monarch
Bottom: Viceroy



The pileated woodpecker is a keystone species.

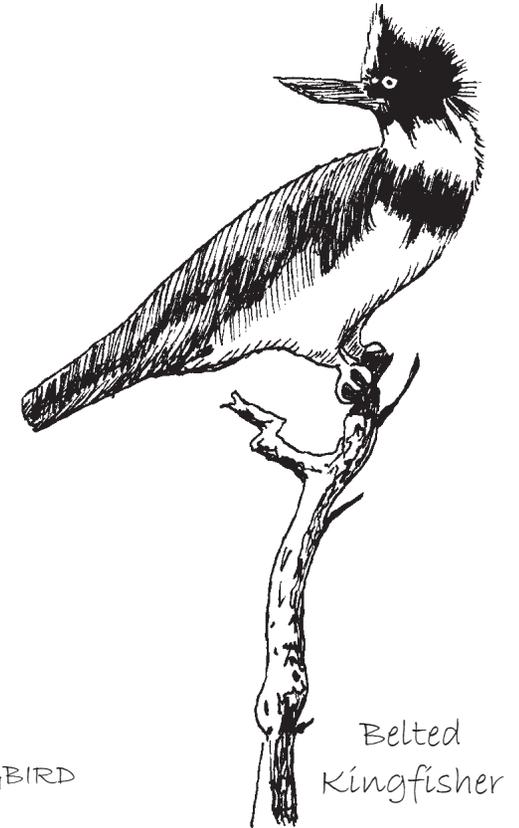
Identify the plants and animals affected by the keystone species.

Birds of Seney

WORD SEARCH LIST

- AMERICAN BITTERN
- BALD EAGLE
- BARRED OWL
- BELTED KINGFISHER
- BLUE JAY
- BOBOLINK
- CANADA GOOSE
- CASPIAN TERN
- CEDAR WAXWING
- CHICKADEE
- CROW
- DOWNY WOODPECKER
- GRAY CATBIRD
- GREAT BLUE HERON
- GREBE
- GROSBEAK
- HAWK
- HOODED Merganser
- KILLDEER
- KINGBIRD
- LOON
- MALLARD
- NORTHERN FLICKER
- NUTHATCH
- OSPREY
- OVENBIRD
- PHOEBE
- RING-BILLED GULL
- RING-NECKED DUCK
- ROBIN
- RUBY-THROATED HUMMINGBIRD
- RUFFED GROUSE
- SANDHILL CRANE
- SANDPIPER
- SHARP-SHINNED HAWK
- SNIPE

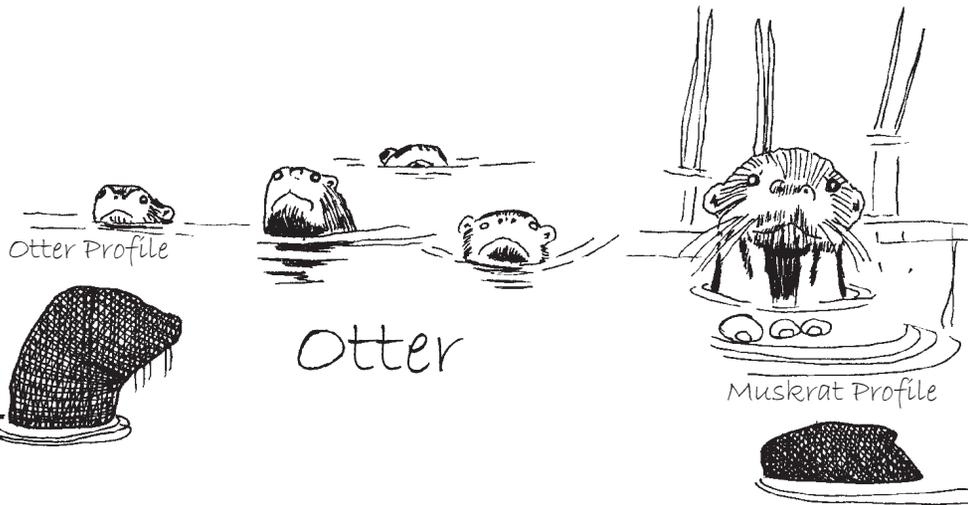
- SORA
- SPARROW
- TRUMPETER SWAN
- TURKEY VULTURE
- VEERY
- VIRED
- WHIP-POOR-WILL
- WOOD DUCK
- WREN
- YELLOW WARBLER



Belted Kingfisher

Find the hidden message. Write down the unused letters.

 ----- !



Otter

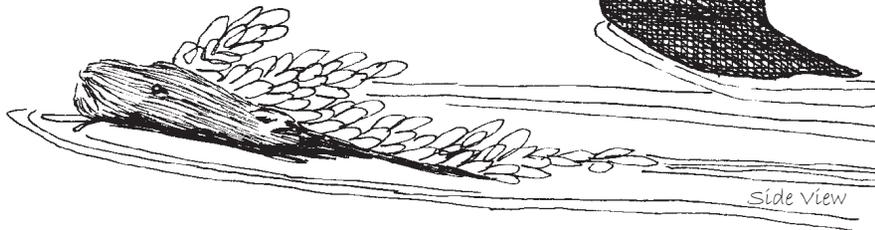
Muskrat Profile



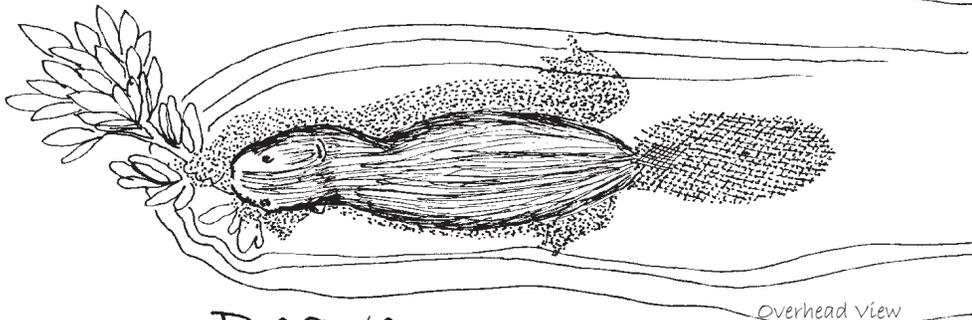
side view

Muskrat

Beaver Profile



side view



Overhead view

Beaver

BIRDS OF SENEY WORD SEARCH

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

25 Check your answers at the back of the booklet.



Record Your Wildlife Observations

Wildlife Sightings: Write them here as you see them.
Then add them to the wildlife sightings board at the Visitor Center.

Date: _____ Time: _____

Weather: _____

Type of Animal (Species)	What was it doing?

Type of Animal (Species)	What was it doing?