

I. Crime scene investigation



Objective

Students will learn to interpret animal track stories by using their knowledge of predator-prey relationships, migration routes, and habitat use. At the end of this activity, students will have used problem solving and process of elimination to decipher animal “crime” scenes.

Methods

Students will learn to interpret track stories where animals interact with their environment and other species. Using observation and a process of elimination, students will decipher what animal fell prey to what predator, like the game “Clue”. Lastly, students will have the opportunity to create their own track stories with art supplies and rubber stamps.

Background

Animals leave behind tracks and other signs when getting food, water, and shelter from their habitat. The evidence tells a story of what the animals were doing in that place.

Refer to the “About Tracks” and “Track Families” section for in-depth information relating to animal track characteristics. For Part 1, refer to the Crime Scene Suspect List on Page 47.

Materials

- Crime Scene Suspect List (p. 47)
- Crime Scene Canvases

Crime scene investigation

Grade Level: K-12

Subjects: Science, art, language arts

Skills: Investigating, observing, problem-solving, story-telling, drawing

Duration: 30 minutes for each part

Group Size: 2-4 students

Setting: Indoors or outdoors

Vocabulary: Gait, track, sign, predator, prey

- Crime Scene Kit props
- Notepad for taking notes
- Track Mystery worksheets (p. 48-50)
- Drawing paper or setting worksheets (p. 51-52)
- Pencils, crayons, or markers
- Animal tracks stamp set and ink pads

Procedure

The following three activities present scenes that allow the observer to predict animal interactions based on track and sign clues. Some ADF&G Tracks kits include a Crime Scene kit and canvas to display an interactive scene to students. The Mystery worksheets and templates for designing your own scene can be found on pages 51-52.

Part I – Crime scene demonstration:

1. **Introductory questions:** Display the crime scene canvas with props. Ask students, “What do you notice about the scene before you?” Have them take notes on observations, clues, and evidence inside the crime scene. Ask students, “What do you wonder about the scene?” after looking at the clues left behind. Present the crime scene suspect list and give students time to learn about the potential predators involved. Finally, ask students if they can draw any conclusions after reading the information on the suspect list.
2. **Who done it?:** After looking at the scene and reading the information about the subjects in question, write out a paragraph or a couple sentences about what you think happened at the scene of the crime. Who do

you think committed the crime, and why?
Who was the prey, and why?

Note: For younger students, this can be done in small groups or as one large group by writing observations and guesses on a whiteboard.

Part 2 – Track mystery worksheets:

1. Make copies of Track Mysteries I, II, and III.
2. As a class or individually, explain what happened in each mystery OR have students try to explain what happened based on their understanding of animal tracks:

I. A deer was walking along when it encountered a wolf. The deer began to run with the wolf chasing it. There is no way to determine whether the wolf captured the deer. Alternatively, the deer may have begun to run for any number of reasons and later a wolf was loping along and followed the tracks.

II. Two deer enter the picture, walking in each other's footsteps. Many animals do this in snow because it takes less energy. Do humans? Two wolves run toward the deer and both deer begin to run. One deer escapes. The other deer is killed. The wolves feed and then walk away in each other's footsteps. The track in the upper right corner is a bird's—probably a raven or eagle. When a bird takes off, it leaves "brush" marks in the snow with its wings.

- Why might the raven or the eagle have been at the kill site?
- What other animals might benefit from having wolves around? (Other animals that scavenge on the carcasses, such as chickadees, foxes, magpies, wolverines, and bears).

III. This story has two plausible scenarios:

- d. A moose was walking along when it saw 3 wolves approaching. It backed up against the trees and brush to protect its back,

and when the wolves attacked, the moose managed to kill one, probably by striking it with its front feet. The other 2 wolves decided to leave and search for something easier. After they left, the moose walked away.

- e. The moose walked through the area either before or after the wolf died and has nothing to do with the story. Two wolves from the same pack caught a trespassing wolf in their territory. They killed it and walked away.

- Why might wolves kill strange wolves that are in their territory?
- What other species sometimes kill strangers that are in their territories?

Part 3 – Create your own story:

1. Draw a setting or use the one provided by Discovery Southeast on page 52. An example would be a local park or a favorite trail or campsite they visit with their family, their yards, etc.
2. Plan a story you want to tell based on the setting, animal tracks available, and your understanding of how animals interact with their environment and leave clues via tracks.
3. Take turns visiting the track stamping station. Use the animal tracks stamp set to illustrate animal activity or interactions.
4. Write a story on the back of the artwork that describes the story you want to tell.
5. Team up with a partner and take turns interpreting the stories you illustrated. See if your partner can interpret the track story before reading the written story.

Evaluation

After each activity, have students reflect on what clues led them to believe a particular animal was the culprit. How did they know another suspect did not commit the crime? What did they notice about tracks in the snow, and what other possible stories could have unfolded at the interactive and illustrated scenes provided and imagined?

Crime scene suspect list



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Haliaeetus leucocephalus

aka: Bald eagle, Chrome dome

What we know: The Bald eagle is named for its conspicuous white head and tail. The distinctive white adult plumage is not attained until five or more years of age. Immature birds lack this easily identifiable characteristic and can be confused with the golden eagle. Fish are the main diet of the Bald eagle. Eagles also prey upon waterfowl, small mammals, sea urchins, clams, crabs, and carrion. Bald eagles are sometimes seen swimming, laboriously “rowing” with their wings. Eagles have thick down and float well. There is a misconception that eagles cannot let go of prey. The talons grasp, but it’s purely voluntary. An eagle will sometimes grab a fish that’s too heavy to lift and will choose to swim, towing the meal to shore rather than lose it.



Vulpes vulpes

aka: Red fox, Foxy, Sly

What we know: The fox is known for its flashy good looks, ability to live close to people, and a reputation for cunning and intelligence. Several English expressions testify to the fox’s wily mind: “sly as a fox,” “foxy,” “outfoxed,” and “crazy as a fox.” The Red fox has well developed senses of sight, smell, and hearing, which are responsible for much of its reputation. The Red fox is omnivorous. Although it might eat muskrats, squirrels, birds, eggs, insects, vegetation, and carrion, voles seem to be its preferred food. Their general appearance is like dogs, wolves, and coyotes. The Red fox is common in most of northern North America.



Bubo virginianus

aka: Great Horned, Hoots

What we know: The Great horned owl is primarily a nighttime hunter. It is the only large owl in Alaska with ear tufts, which give it a horned appearance. It has a distinct white bib around its throat. The owl often perches near the edge of a meadow, slough, or open area where it hunts for small mammals. It has a deep call that can be heard from great distances. It sounds like it’s saying “Who’s awake? Me too.” In Alaska, the diet of the owl has been determined by analysis of regurgitated pellets, which contain undigested bones and hair. Dissection of the pellets reveals the remains of skulls and lower jaws which can be identified. Small rodents compose 94 percent of the diet while other mammals (mainly shrews) and birds compose the remainder.

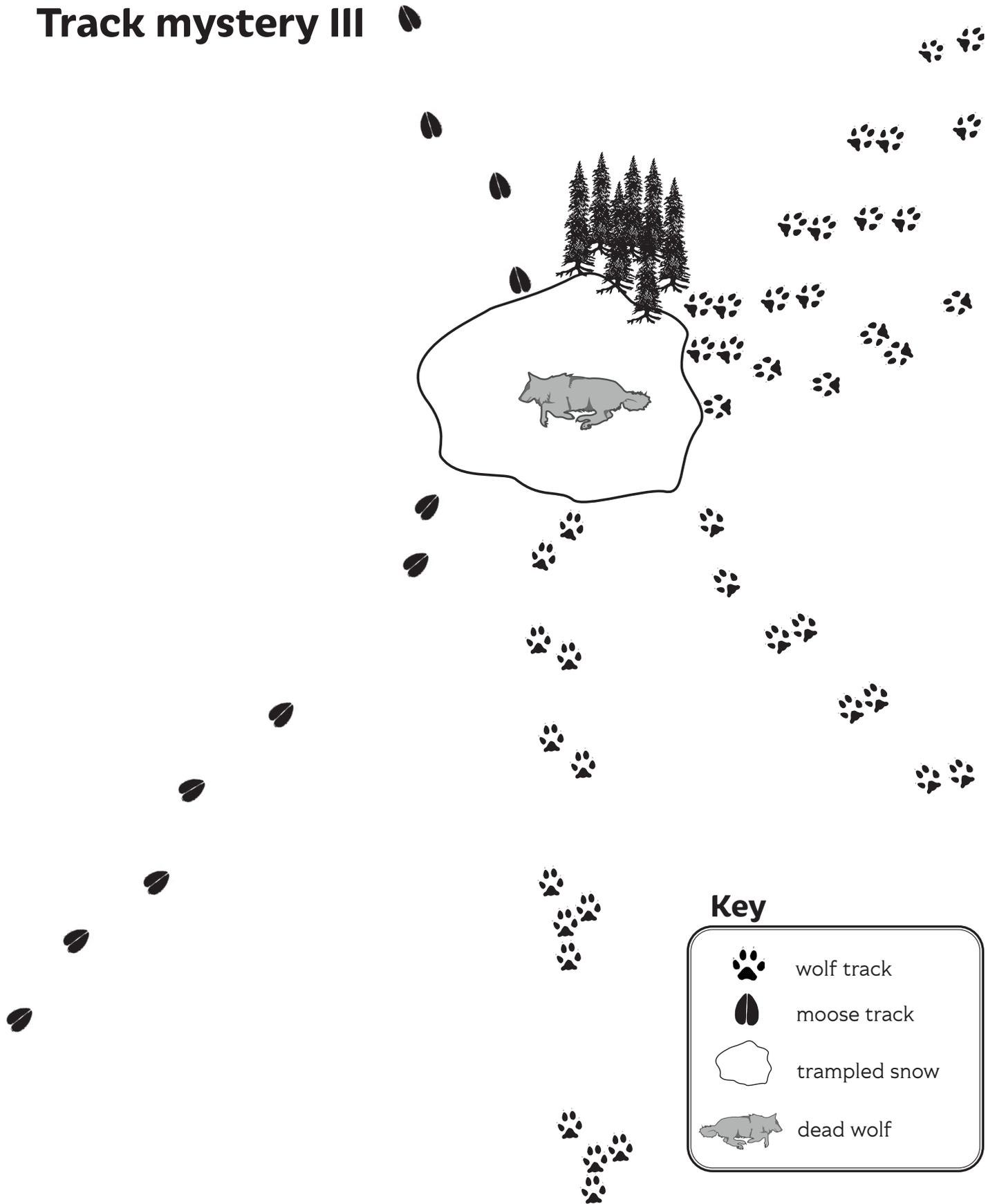


Canis latrans

aka: Coyote Ugly, Song Dog

What we know: The secretive nature of the coyote makes it an animal which is seldom seen by most Alaskans. It is for this reason that those rare sightings of a coyote take on a special significance. It appears that this newcomer to the Alaskan scene, the “song dog of the West,” has found a niche in our state. The coyote, like the wolf, is a member of the dog family (Canidae) and resembles a medium-sized shepherd-collie type dog. Distinctive features of the coyote are its sharp pointed ears that never droop, a sharp pointed nose, and a long bushy tail. The coyote is best described as an opportunistic feeder. In Alaska, snowshoe hares, rodents, and carrion comprise the bulk of the coyote’s diet while marmots, ground squirrels, muskrats, fish, and insects are taken in fewer numbers.

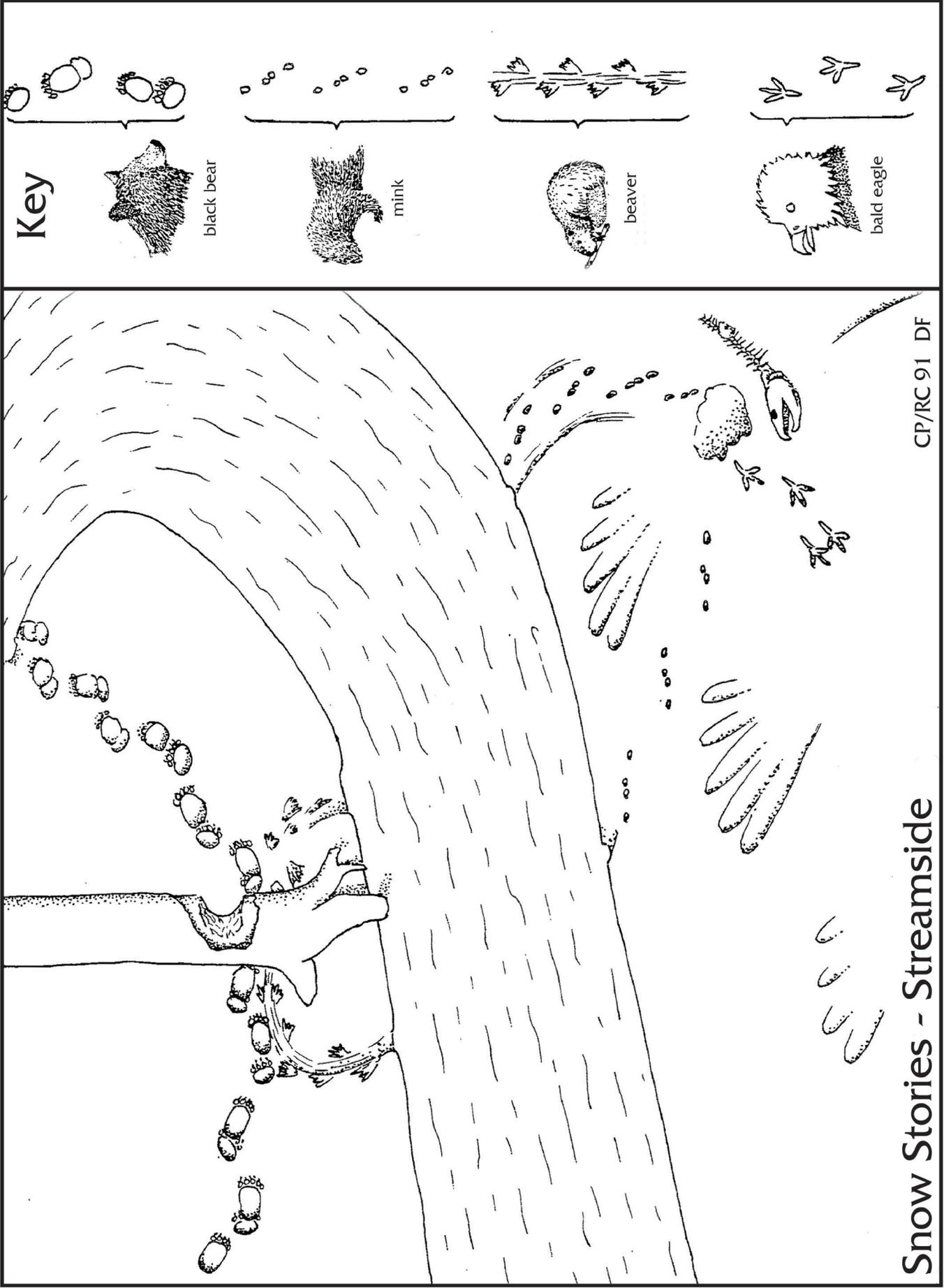
Track mystery III



Key

	wolf track
	moose track
	trampled snow
	dead wolf

Here's an example of the "stories" that can be left behind by tracks. Make your own using the worksheet provided.



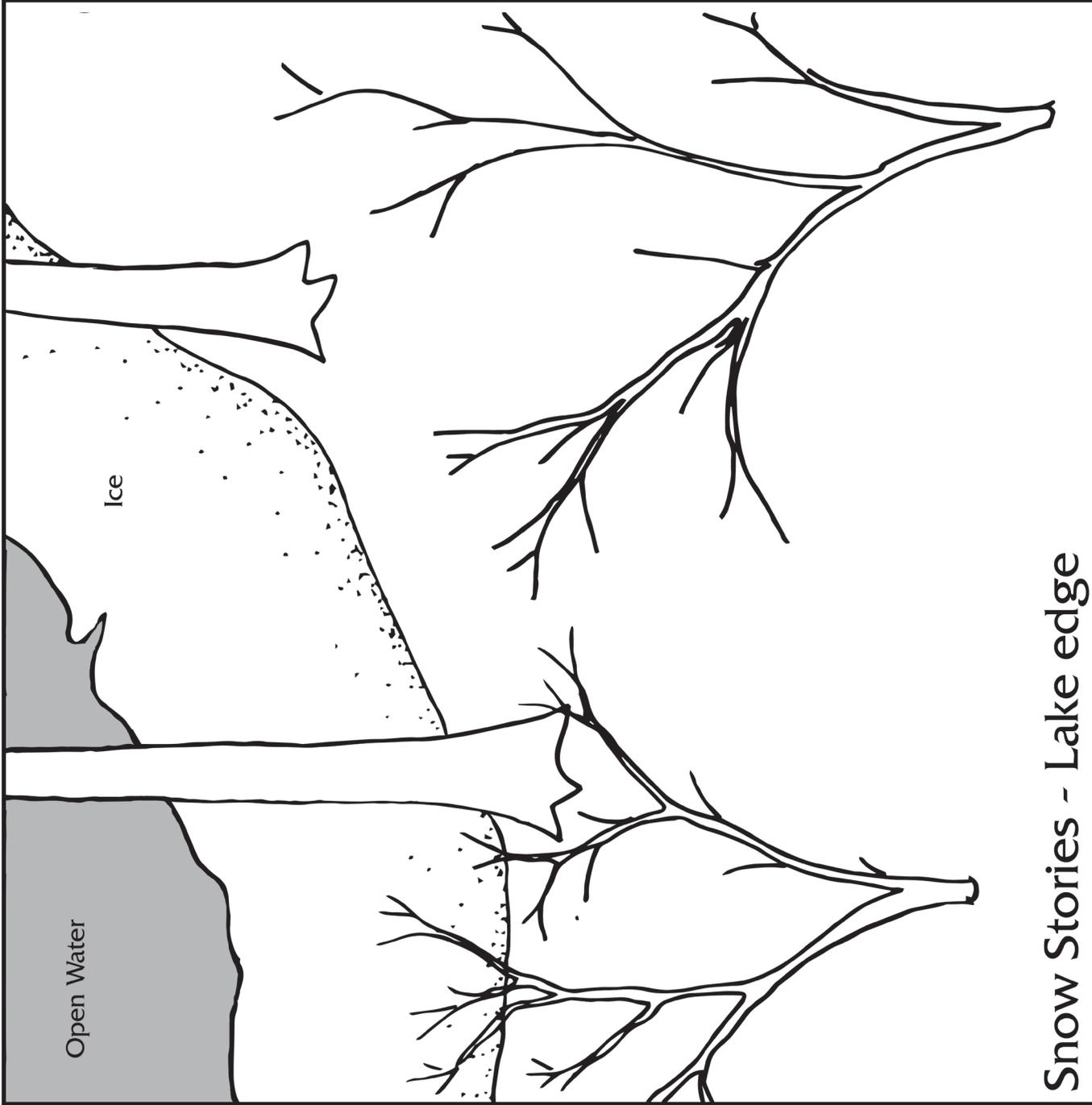
Snow Stories - Streamside

CP/RC 91 DF

Key

Open Water

Ice



Snow Stories - Lake edge