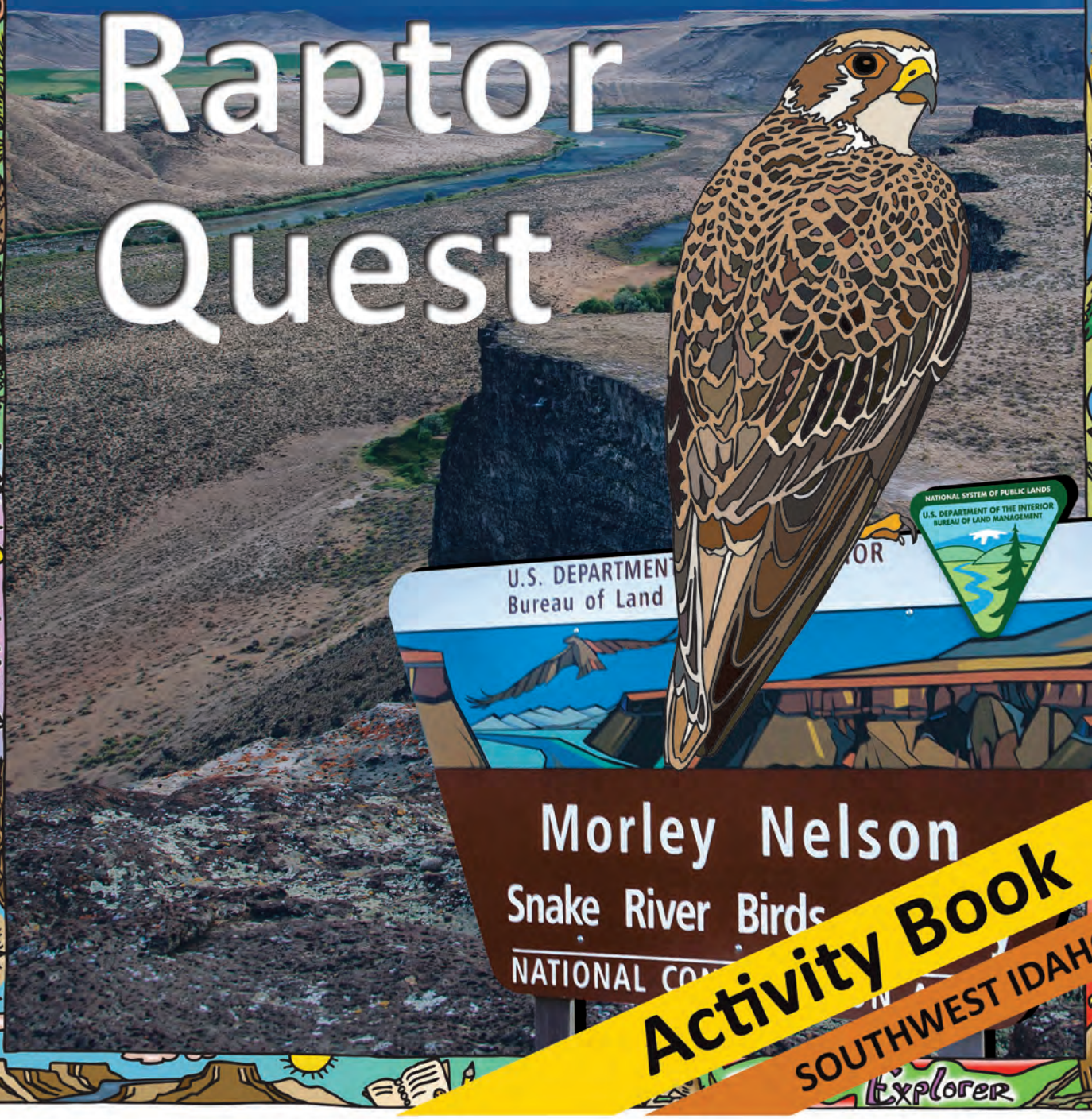
JUNIOR EXPLORER

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Junior Explorer

JOIN THE ADVENTURE

Raptor Quest



Activity Book

SOUTHWEST IDAHO

BIRDS of PREY

Morley Nelson Snake River

Explorer

JUNIOR EXPLORER

The Bureau of Land Management (BLM) works hard to make sure that the nation's public lands are healthy for everyone to enjoy! The BLM and the World Center for Birds of Prey are informal partners, who share the goal of helping people appreciate raptors and understand their needs.

Public lands are special! They offer great places to play and explore. They provide a home for many animal and plant species, as well as grazing for cattle, sheep, and horses. And they contain minerals for construction, energy, and other uses. Public lands fill many needs!

This publication was produced by the Morley Nelson Snake River Birds of Prey National Conservation Area, with assistance from The Peregrine Fund.
Additional copies may be obtained through the Bureau of Land Management, Boise District Office, by calling 208-384-3300 or writing the office at 3948 Development Avenue, Boise, ID, 83705.

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2014

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BIRDS of PREY

Morley Nelson Snake River

Junior Explorer

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JUNIOR EXPLORER
Morley Nelson Snake River
BIRDS of PREY
Junior Explorer

Hello, Junior Explorer,

Get ready to have some fun—and to see live raptors! This booklet takes you first on a self-guided tour of the World Center for Birds of Prey. Here you can explore the exhibits and see these exciting birds up close. You can also learn what they need and what people are doing to protect them. Then you're off on a field trip into the Morley Nelson Snake River Birds of Prey National Conservation Area (NCA). There you will hike to the top of an old volcano and walk to the rim of the Snake River Canyon. The NCA is a wonderful place to see birds of prey in the special raptor habitat that exists right here in Southwest Idaho.

To become a Junior Explorer, visit the places in this book. While you are there, complete the activities for that location. Every activity marked by a counts as one activity. Do as many of the 23 activities as you wish, but at least:

Third Grade:	**Fourth–Sixth Grade:**
World Center – 4 activities	World Center – 6 activities
NCA – 4 activities	NCA – 6 activities
1 summary activity	2 summary activities

Junior Explorers and one accompanying adult each receive $1 off the regular entry fee at the World Center! Visiting the NCA is free!

We hope you'll learn some new words, too! Look for the definitions of many words at the bottom of the page on which the word appears.

Once you have completed all the required activities, read and sign the pledge on page 31 and mail or bring it to:

BLM Birds of Prey		**World Center for Birds of Prey**
3948 Development Avenue	OR	5668 West Flying Hawk Lane
Boise, ID 83705		Boise, ID 83709

A raptor education specialist is standing by at both locations to check your work and to swear you in as an official Junior Explorer. You will then receive your Junior Explorer certificate and badge. If you mail in your booklet, we will check your work and return the booklet to you with your certificate and badge.

Safety Tip

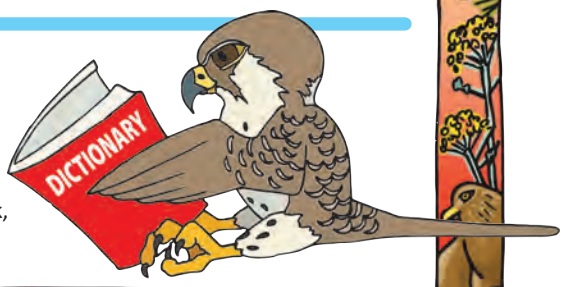
If you visit both places in one day, remember to bring a lunch and plenty of water!

Enjoy your exploration, and see you soon!

HABITAT: A place that provides the food, water, and shelter that an animal needs to survive and safely raise its young.

PREY: Mammals, birds, reptiles, amphibians, insects, and fish that are eaten by other animals for food. Raptors eat a variety of all prey.

RAPTOR: A bird of prey with strong, powerful feet and sharp talons, a sharp-hooked beak, and excellent eyesight.



WELCOME to the World Center for Birds of Prey!

The World Center for Birds of Prey is also the headquarters of The Peregrine Fund, an organization created to make sure that peregrine falcons, as a species, continue to exist for many years. These magnificent birds were once in danger of dying off completely and becoming extinct. Such species are called "endangered species." The Peregrine Fund's special breeding program helped restore the peregrine falcon, and in 1999 it was removed from the U.S. Endangered Species List!

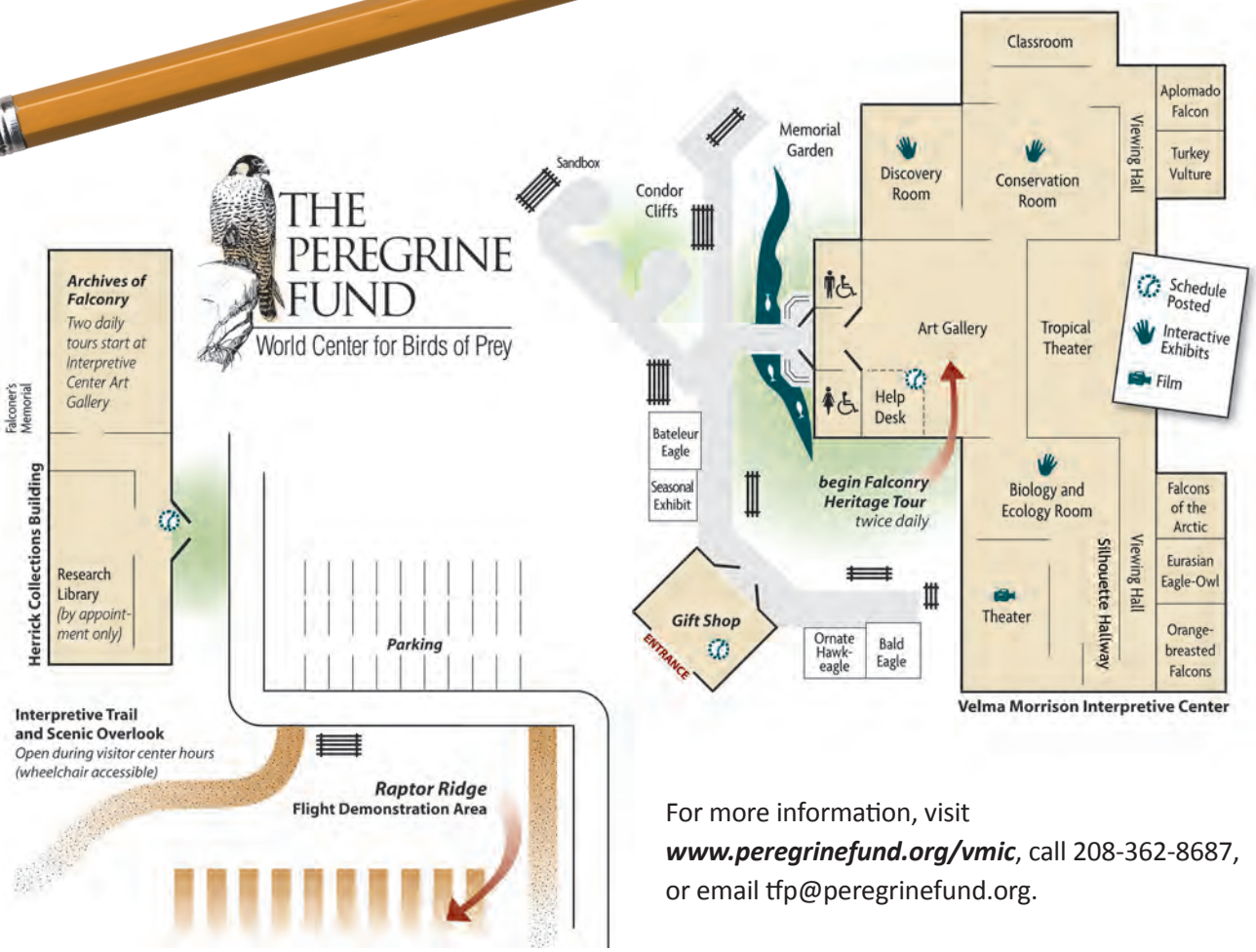
Now, The Peregrine Fund helps other birds of prey, in this country and around the world. One endangered species—the California condor—is breeding new generations of birds here at the World Center. Once the young birds are ready to make it on their own, they will be released into the wild.

Things To Do Here

Velma Morrison Interpretive Center – take the Junior Explorer self-guided tour.

Outside – walk a short trail for a fantastic view of the Boise Valley, where you might just spot raptors soaring along the ridgeline!

Archives of Falconry – discover what it takes to be a "falconer" and to help conserve falcons around the globe.



For more information, visit ***www.peregrinefund.org/vmic***, call 208-362-8687, or email tfp@peregrinefund.org.

Discovery Room

- Around the room there are three things that make a bird of prey different from other birds. Find them, try them on for yourself, and then write what those features are below:

_____ _____ _____

You can also try on a pairs of wings!

- In the feather collection, find an owl feather and a falcon feather. Notice the differences between the feathers, and draw each one below.

FUN FACT

Owl feathers are soft with fringy edges. A few feathers at the tip of the wing even have a notched edge, something like a comb. Owls' wings are designed to muffle the sound of air flowing over them. An owl's flight is almost silent—making it easier for this raptor to hear its prey and sneak up on it at night!

Owl Feather

Falcon Feather

- Mini-Scavenger Hunt: Look at the habitat wall in the back, and check off each of your discoveries.

___ a screech owl cavity nest inside a tree
___ burrowing owl eggs
___ a northern harrier nesting on the ground
___ a peregrine falcon nesting on a ledge
___ a bald eagle nest in a tree
___ a killdeer with eggs

Conservation Room

1 A problem for raptors around the world is exposure to many kinds of poisons. Raptors may come in contact with pesticides used to kill insects that are harmful to crops and people. Or they may eat an animal that is contaminated (even by lead poisoning from bullets). Read more at ***www.peregrinefund.org/projects/california-condor.***

2 Another big problem for raptors is loss of habitat. As we humans change the land to meet OUR needs—building houses and roads, planting crops, changing the direction of streams—the land is less able to support the wildlife that once called it home.

The Peregrine Fund is helping conserve the California condor through a special breeding program. Enjoy coloring the picture of this beautiful condor, as shown in the photo.

3 A third threat to raptors in the wild is power lines and towers. Raptors like to perch on the towers and sometimes even build their nests on them. If a bird touches two wires at the same time, and one wire is carrying electricity, the bird will be electrocuted and die.

Many existing power lines and towers are being modified, and new lines and towers are being built, to "raptor standards." This means that the birds will no longer be able to touch two wires at the same time. Some organizations even build safe nesting platforms on or near utility poles for osprey and other raptors.

Why do raptors seek out high places, such as utility poles? Use the code below to discover why.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

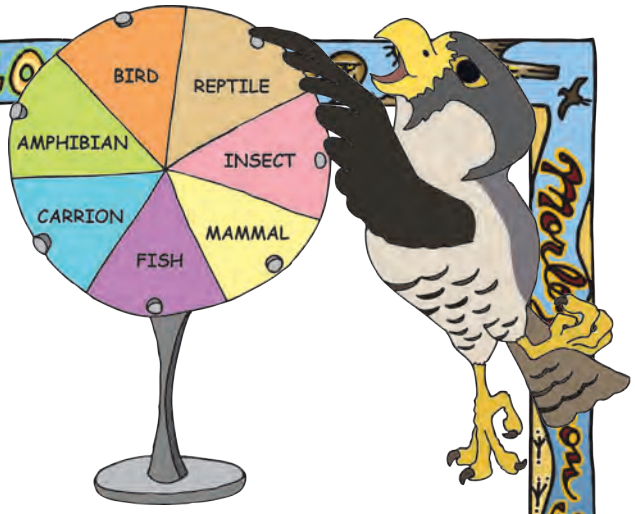
20 15 / 12 15 15 11 / 6 15 18 / 16 18 5 25 / 20 15 / 5 1 20

__ __ / __ __ __ __ / __ __ __ / __ __ __ __ / __ __ / __ __ __

20 15 / 16 18 15 20 5 3 20 / 14 5 19 20 19 / 6 18 15 13 / 16 18 5 4 1 20 15 18 19

__ __ / __ __ __ __ __ __ __ / __ __ __ __ __ / __ __ __ __ / __ __ __ __ __ __ __ __ __

CODE ANSWERS: to look for prey to eat; to protect nests from predators



Bird Viewing Hall

What's your favorite bird in the hall? _____
On the pie chart, circle what types of animals your bird eats.

Circle the word below that describes how your bird is doing.

Endangered Threatened Neither

On the world map, mark an "X" where your bird normally lives.

Silhouette Hallway

What bird am I?
HINT: Use the key to the silhouettes in the hallway (outside the movie theater) to help you name the bird described.

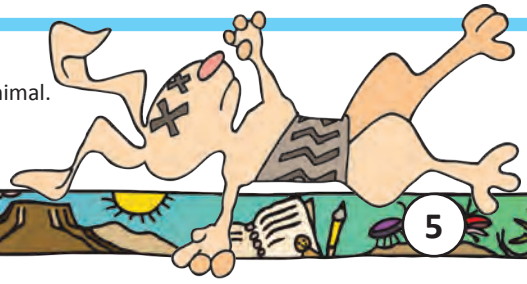
A bird that has a wingspan the same size as you: _____

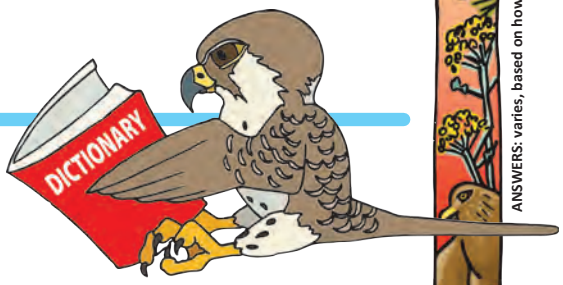
A bird that can fly super-fast (look up!): _____

The BIGGEST wingspan here belongs to: _____

A bird that hunts at night: _____

CARRION: A dead animal.





ANSWERS: varies, based on how big YOU are; peregrine falcon; California condor; owl

Biology and Ecology Room

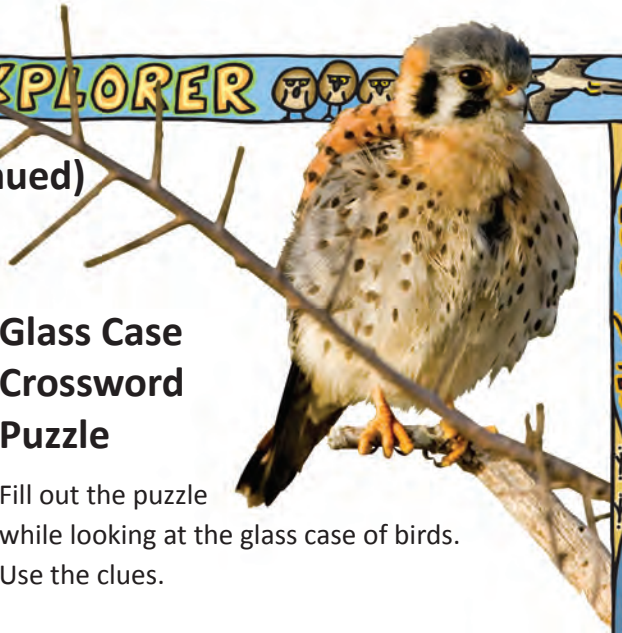
Go to the big, electronic Migration Interactive Display and MATCH each of the birds to a description of their migration or locations by drawing a line:

Bird	Description
Barn Owl	You can find these birds in Greenland in the summer.
Peregrine Falcon	You probably cannot find many of these birds in Canada.
Barn Swallow	Look for these birds in Alaska in the summer, but not the winter.
Turkey Vulture	This bird seems to disappear from North America in the winter.
Osprey	This bird doesn't really migrate at all.

MIGRATION: The seasonal movement of animals, including birds, from one place to another.

Biology and Ecology Room (continued)

Go to the Glass Case Display of birds. Can you find the answers to complete this puzzle?

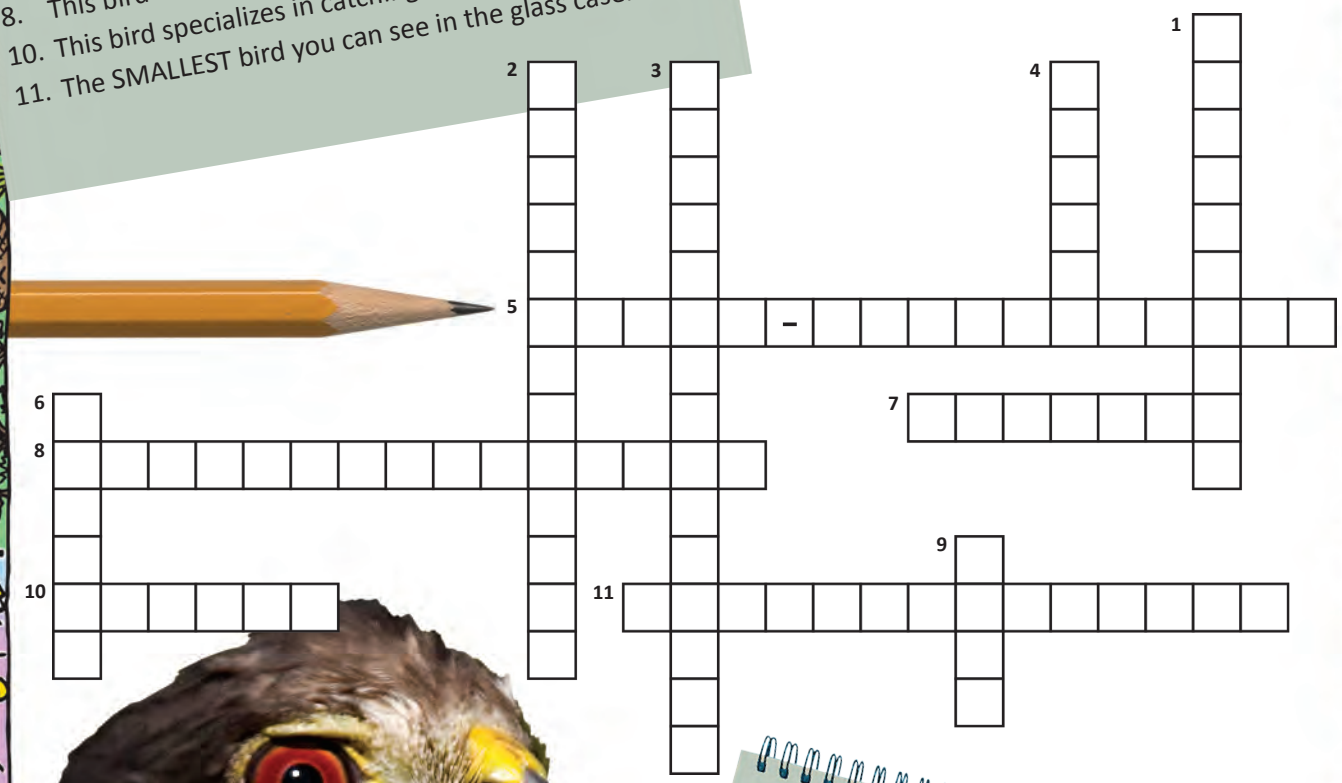


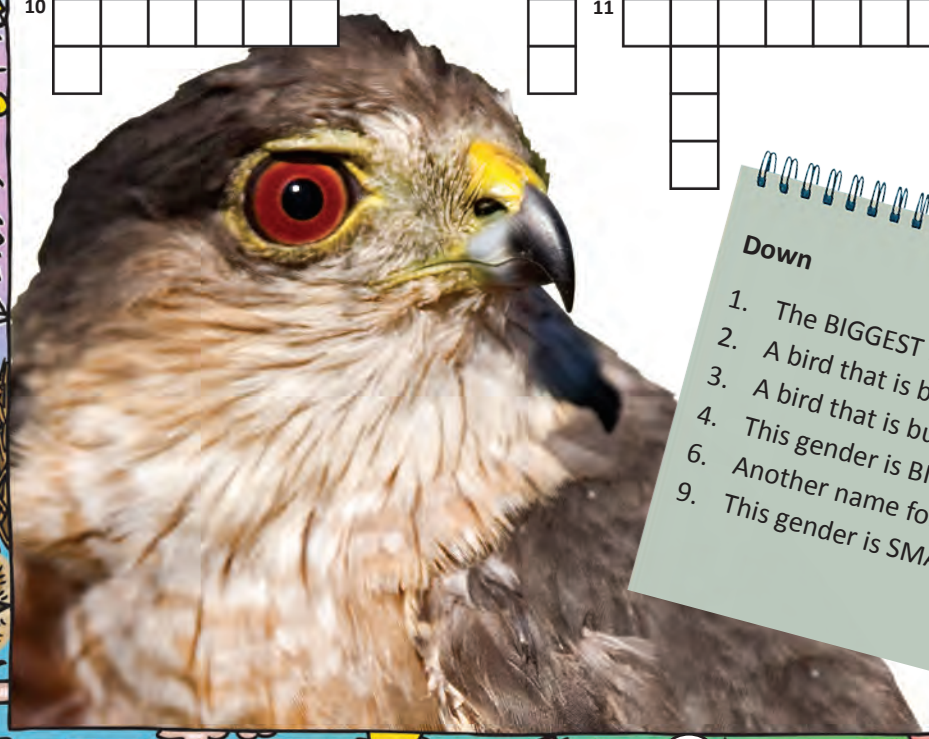
Glass Case Crossword Puzzle

Fill out the puzzle while looking at the glass case of birds. Use the clues.

Across

5. A bird that is built for changing directions quickly.
7. A bird that is built for slow, quiet flight.
8. This bird shows different colors in males and females.
10. This bird specializes in catching fish.
11. The SMALLEST bird you can see in the glass case.





Down

1. The BIGGEST bird you can see in the glass case.
2. A bird that is built for soaring (drop the apostrophe).
3. A bird that is built for high speed.
4. This gender is BIGGER in many birds of prey.
6. Another name for a bird of prey.
9. This gender is SMALLER in many birds of prey.

ANSWERS: (Across) 5. sharp-shinned hawk; 7. barn owl; 8. American kestrel; 10. osprey; 11. flammulated owl (Down) 1. harpy eagle; 2. Swainson's hawk; 3. peregrine falcon; 4. female; 6. raptor; 9. male

Get Ready To Explore Raptor Habitat!

Morley Nelson Snake River Birds of Prey National Conservation Area

Now that you have learned what makes a bird a raptor, it's time to go out into the—(take a deep breath for all these words!)—Morley Nelson Snake River Birds of Prey National Conservation Area. Whew! You can just call it the NCA, too. Congress made this a protected area in 1993 because its special ecosystem supports the highest number of birds of prey nesting in one location in the whole country!

The activities in this section of the booklet show what it's like to live as a raptor. If you're lucky, you'll see different raptors living here in the wild!

Exploring the Outdoors Safely

Before setting off on the two short hikes, take a full water bottle with you. Your adventure may be hot and dry, and no water is available. Watch your footing. The trail up to Initial Point is rocky. At Dedication Point, do not climb on the low barrier wall. It's a long way to the bottom! If you see a rattlesnake while you are exploring, just observe it from a safe distance.

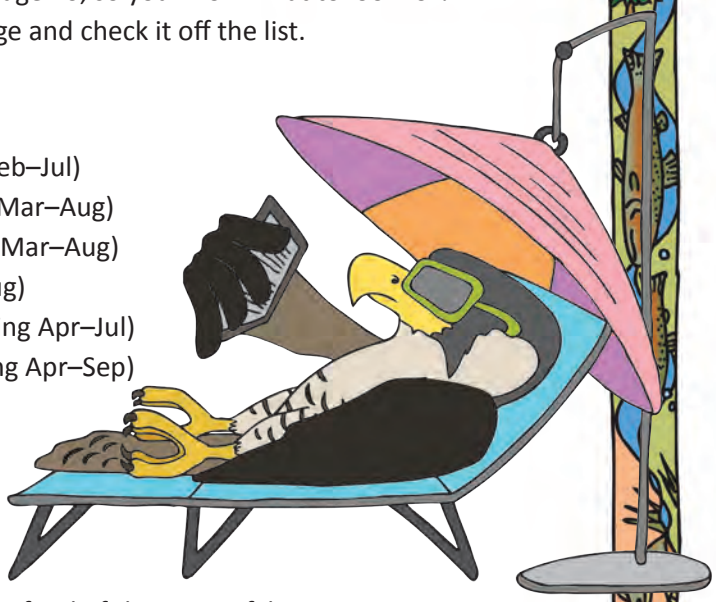
Listed below are the raptors you're most likely to see. Find the birds first in the Raptor Guide on page 10, so you know what to look for! As you see each raptor in the wild, come back to this page and check it off the list.

Year-round Birds:

__Red-tailed Hawk
__Northern Harrier
__American Kestrel
__Great Horned Owl
__Golden Eagle

Migrating Birds:

__Prairie Falcon (present during Feb–Jul)
__Turkey Vulture (present during Mar–Aug)
__Burrowing Owl (present during Mar–Aug)
__Osprey (present during Mar–Aug)
__Ferruginous Hawk (present during Apr–Jul)
__Swainson's Hawk (present during Apr–Sep)



FUN FACT

Some raptors live in the NCA all year. Others are here only part of the year. It gets either too hot or too cold for them, or their food disappears! So when the Piute [pie-yoot] ground squirrel—favorite food of the prairie falcon—goes underground in early summer, the falcons migrate to other places where they can find other types of ground squirrels.

ECOSYSTEM: An area where all the living organisms—animals, plants, and others—exist together because of how they relate to one another and their environment.

Idaho Raptor Safari!

On this safari, you'll take an inventory of raptors much as a biologist does—searching the landscape, ready to observe and record the wildlife you find. **Tip:** Look for raptors sitting on fenceposts, telephone poles/wires, power poles, and rock outcrops—anything that gives them a higher vantage point for hunting! But don't forget to look on the ground, too.

Use the journal provided on pages 12–13 to record what you see. There's a sample page to guide you on page 11. Completing the Safari Journal counts as one activity in the NCA.

Your safari will take you to Initial Point and Dedication Point. The latter is an especially good place to view raptors! At these locations, you can continue your safari on foot. Take some time to explore. Then do activities for that location while you are onsite.

What You'll Need

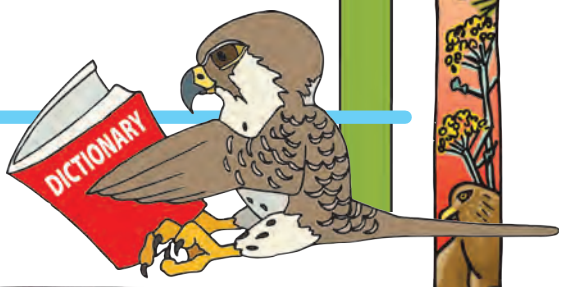
The Map + binoculars + Raptor Guide + Safari Journal and pencil (colored pencils, optional)

So Where Are They?

Best viewing times for raptors are early morning and early evening, when they are hunting for food. Raptors are most active in mid-March, May, and June. In April, they're incubating eggs in their nests; come July, they stay out of the sun or leave the canyon during the fierce heat.

Let's Go!

1. Ask your driver to set the odometer to zero.
2. Follow along on the Junior Explorer Guided Viewing pages (pages 17–19).
3. Use the Raptor Guide to help you identify the birds you see (page 10).
4. Record the birds you see in your Safari Journal (pages 12–13).



INCUBATING: Sitting on eggs to hatch them by keeping them warm.

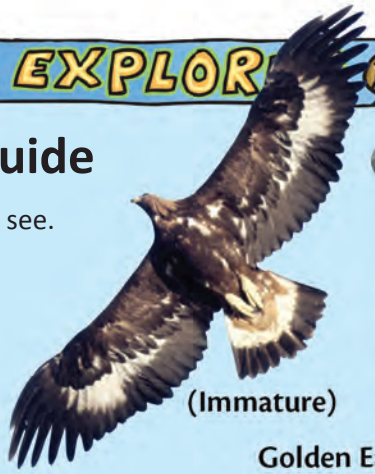
INVENTORY: A detailed list.

Raptor Guide

Raptors you may see.

(Male)

American Kestrel (Female)



(Immature)

Golden Eagle

(Adult)

Osprey

Ferruginous Hawk

Prairie Falcon

Red-tailed Hawk

(Female)

(Male)

Northern Harrier

Great Horned Owl

Swainson's Hawk

Burrowing Owl

Turkey Vulture

Idaho Raptor Safari Journal

Record the birds you observe by describing:

Colors – on the body, wings, or tail, plus any markings on the head
Shapes – long or short tail; broad or narrow wings; rounded or pointed wingtips
Behavior – how the bird flies, where it is perching, whether it is eating anything

Example:

Idaho Raptor Safari Journal - What I Saw and Where I Saw It

Date: May 22nd **Time:** 1:30pm

Weather: Hot
Temperature: about 85 degrees
Is it calm? No **Windy?** Yes, slight breeze
What percent of the sky is covered with clouds? 15%
Is it raining or snowing? No

Location: Dedication Point

Description of bird: It appeared grey brown on top, but creamy underneath except where the wing and body met. There it was darker brown. I noticed two stripes on its face. Its wings were long and pointy. Its tail was short.

Behavior of bird: It was soaring back and forth in front of the cliffs. Then it soared over us and out over the desert.

Other Notes: I looked at the photos on the Raptor Guide, and the bird was a prairie falcon!

Use this space to draw your bird. (optional).

Idaho Raptor Safari Journal - What I Saw and Where I Saw It

Date: _____ Time: _____

Weather: _____

Temperature: _____

Is it calm? _____ Windy? _____

What percent of the sky is covered with clouds? _____

Is it raining or snowing? _____

Location: _____

Description of bird: _____

_____

_____

_____

_____

_____

Behavior of bird: _____

_____

_____

_____

Other Notes: _____

_____

_____

_____

Use this space to draw your bird. (optional).

Idaho Raptor Safari Journal - What I Saw and Where I Saw It

Date: _____ Time: _____

Weather: _____

Temperature: _____

Is it calm? _____ Windy? _____

What percent of the sky is covered with clouds? _____

Is it raining or snowing? _____

Location: _____

Description of bird: _____

_____

_____

_____

_____

_____

Behavior of bird: _____

_____

_____

_____

Other Notes: _____

_____

_____

_____

Use this space to draw your bird. (optional).

BIRDS of PREY

Morley Nelson Snake River

Hello, Drivers! You should know –

Safety Tip

There are **NO SERVICES** in the NCA, so you should:

- Be sure you have a full tank of gas.
- Bring emergency supplies—mobile phone service is limited, and you must be prepared to handle situations on your own.
- Bring plenty of drinking water for everyone—especially in late spring through early fall, when it can be quite hot.
- Remind everyone before leaving the World Center that the next available restroom is a LONG way down the road (Dedication Point, Swan Falls Dam, and Celebration Park).

If desired, cut out this page with The Route and, on the back, The Map.

The Route

All roads are paved except for a 2-mile (round trip) gravel section at the base of Initial Point.

TO BEGIN: Set the odometer to zero!

		Odometer Miles	Additional sights/information
Start	World Center for Birds of Prey	0.0	Begin driving
Right	Hollilynn Drive	1.2	
Right	Pleasant Valley Road	3.3	
Right	Ten Mile Creek Road	5.9	
Left	South Cole Road	8.1	
Right	Kuna Mora Road	10.5	
Left	Cloverdale Road	13.5	
Right	Poen Road	16.5	
Left	Swan Falls Road	20.5	
Left	Initial Point Road	23.5	Gravel road to Initial Point
		24.5	Arrive at base of Initial Point; and return
Left	Swan Falls Road	25.5	
		33.0	Arrive at Dedication Point

The Map

Boise
I-84
Meridian
Exit 44
Nampa
Cole Road
Broadway Ave
Gowan Road
Meridian Road
Cloverdale Road
Hollilynn Dr.
World Center for Birds of Prey
BLM Horse corrals
Ten Mile Ck. Rd.
northern harrier
red-tailed hawk
Pleasant Valley Road
Kuna
Kuna Road
Kuna Visitor Center
Kuna Rd.
Cole Road
burrowing owl - artificial burrows
Kuna-Mora Rd.
12th Avenue Road
Southside Boulevard
Robinson Road
NCA boundary
45
Melmont Road
Kuna Cave Rd.
Dickman Rd.
Poen Rd.
Nicholson Rd.
Swan Falls Road
Melba
Melba Rd.
Baseline Rd.
Initial Point
Walter's Ferry Boat Ramp
Ferry Rd
Hill Road
CanAda Rd.
Warren Spur Rd.
Sinker Rd.
78
ferruginous hawk
Victory Lane
Victory Lane
Halverson Rd.
Celebration Park
golden eagle
Halverson Bar
Dedication Point
red-tailed hawk
prairie falcon
turkey vulture
golden eagle
prairie falcon
Falcon Falls
Swan Falls Dam
Legend
Main route
Route to Celebration Park
Paved roads
Dirt roads
Non-motorized trails
NCA boundary
Locations to generally see named species.

Junior Explorer Guided Viewing

☑ Follow along, and discover what there is to find along the journey! When you finish reading this Guided Viewing section, check (√) the box on the last page.

MILE 0.0 As you leave the World Center, watch for raptors riding the uplift of air along the ridgeline. American kestrels—about the size of a robin—are quite common.

MILE 1.2
Right Turn Notice the stands of sagebrush to your left. These native shrubs provide small animals and birds with food and places to hide. These animals in turn become prey for red-tailed hawks and northern harriers.

FUN FACT

Sagebrush has many chemical defenses in its leaves. You can smell this if you pick some leaves and roll them in your fingers. That's nature's hand sanitizer you're smelling!

MILE 3.3 Right Turn

MILE 5.6
Optional
Right Turn Consider taking a short side trip to the Wild Horse Corrals, where you can see the BLM caring for the wild horses and burros that symbolize the American West.

DID YOU KNOW? **People can adopt wild horses and burros from the BLM. During the past 40 years, more than 190,000 horses and 36,000 burros have gone to good homes!**

Junior Explorer Guided Viewing continued

MILE 5.9
Right Turn
Look for raptors hunting the fields to your left, sitting on the irrigation equipment, or even sitting on the ground.

MILE 8.1
Left Turn
Look for northern harriers and red-tailed hawks. In spring, you might even see great horned owls nesting in one of the trees.

Red-tailed hawks have a red tail and are the most common raptors you'll see here.

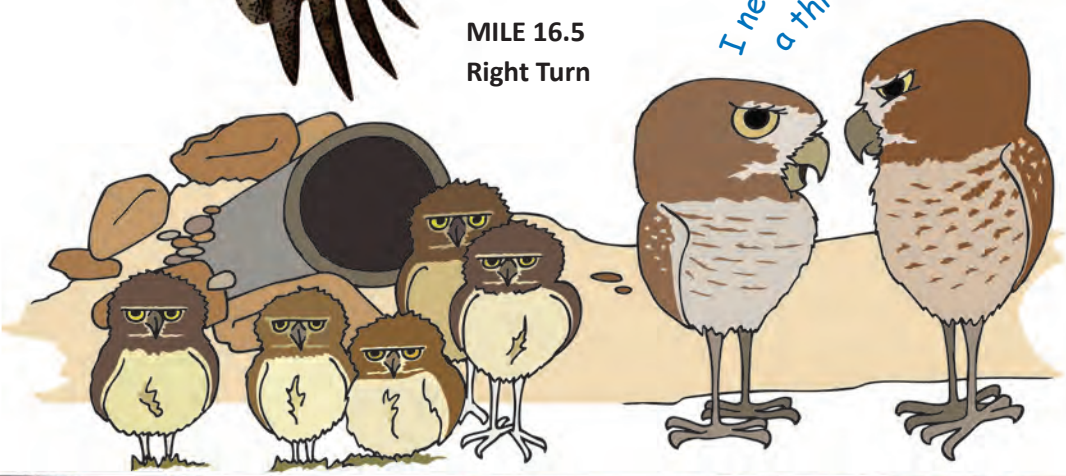
Northern harriers have a long tail and hold their wings in a "V" when flying. Males are grey and white. Females are brown. Both have a white rump patch.

At MILE 9.6
Start looking for burrowing owls on fenceposts and on the ground (March–August). Small mounds of dirt may be the entrance to their burrows—or they can mark the homes of the Piute ground squirrel.

MILE 10.5
Right Turn
Black plastic tubes served as the entrance to human-made burrows for the owls in a 2002 study. (NW corner of the intersection, in the field behind the house.)

MILE 13.5
Left Turn

MILE 16.5
Right Turn



Junior Explorer Guided Viewing
continued

Because raptors are predators—hunting, catching, killing, and eating other animals—they help keep those populations in a healthy balance.

At MILE 19.8 Look for the lone tree to the north of the road. Red-tailed hawks often use this tree as a nesting site.

MILE 20.5 Left Turn

MILE 23.5 Left Turn One mile down this gravel road is Initial Point. There's an observation deck on top, about a 1/4 mile up the trail. Remember to complete some Junior Explorer activities from the Initial Point section of this booklet!

MILE 25.5 Left Turn Head back down the gravel road and turn left, in search of Dedication Point.

THE GREAT KERN COUNTY MOUSE WAR - A TRUE STORY

In 1926 the farmers of Kern County, California, had a great harvest—the best in years! Left on the ground was stubble and scattered seed. By October, people began to notice mice—everywhere! The mice had bred in the stubble and fed on the scattered seeds. Soon there were even more mice, and they went looking for food in barns and houses. The people tried to poison the mice, but they kept coming. By early January the mice were pouring over the earth in ankle-deep waves, and the roads were carpeted with mice. A teacher opened her desk to have a dozen mice leap out. Mice occupied the principal's office. Mice darted from classroom to classroom.

What went wrong? For 20 years the people of Kern County had been killing predators—skunks, fox, badgers, weasels, snakes, owls, and hawks. For 20 years the mice had multiplied freely. With the bumper crop of food in 1926, the mouse population exploded until the food ran out. Then TENS OF MILLIONS OF MICE found they had to migrate or starve. By mid-January they covered an area of 96 square miles!

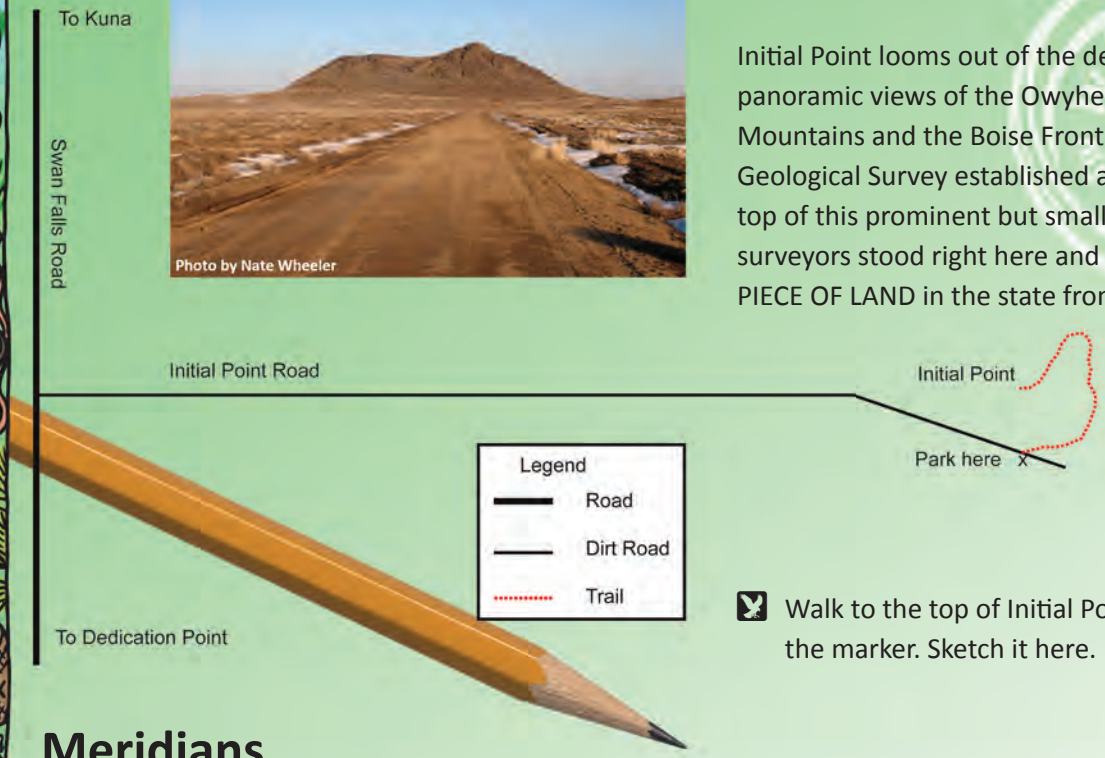
After 4 months this "war" was finally won but at a cost in crop and property damage of about $1 million—all because of the lack of predators.

MILE 33.0 Right Turn You've arrived at Dedication Point! Walk the short trail to the overlook, and keep an eye out for prairie falcons, red-tailed hawks, and turkey vultures. Bring your Junior Explorer book, and have fun completing some of the activities!

____ Check (√) here to show that you read the Guided Viewing section.

Initial Point

Initial Point looms out of the desert and offers panoramic views of the Owyhee [O-WHY-hee] Mountains and the Boise Front. In 1867 the U.S. Geological Survey established a brass marker on top of this prominent but small volcano. Early surveyors stood right here and mapped EVERY PIECE OF LAND in the state from this marker!



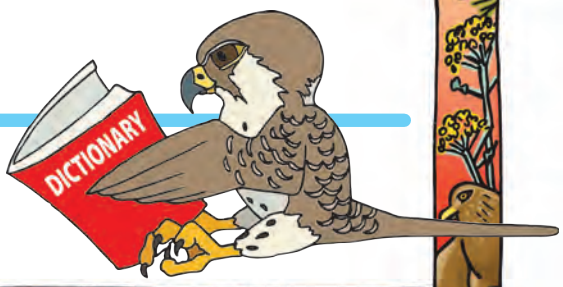
Walk to the top of Initial Point and find the marker. Sketch it here.

Meridians

Long ago, people found places that they wanted to visit by using the stars and specialized tools. Today, it's popular to use GPS (Global Positioning System) units to find where you're going. GPS can tell anyone in the world the exact location of a place by using longitude and latitude lines—imaginary lines that circle the Earth. Meridians circle the Earth vertically and show longitude. The horizontal lines show latitude and are called "baselines."

The meridians that you see marked on globes are called "principal meridians." One, the Boise Meridian, runs right through Initial Point! Meridian Road and Meridian (the town) also lie on the Boise Meridian. Look toward Kuna, and you can see Meridian Road coming straight at you!

SURVEYOR: Someone whose job is to determine boundaries and elevations of land areas and structures.



Put on Your Habitat Hat!

Look at the desert around you. It may seem empty, but it is FULL of something that is absolutely essential to birds of prey. You see, if they are to eat, their prey have to eat, too. And the plants that grow here supply both food and shelter for large populations of ground squirrels and jackrabbits—the main food sources of raptors here in the NCA.

This area of Idaho lies in a vast, grass-covered plain called a steppe [step]. Sagebrush-steppe, to be specific. Here you'll find:

- Low-growing shrubs (mostly sagebrush)
- Bunchgrasses (grasses that grow in clumps)
- Forbs (flowering plants with soft stems)

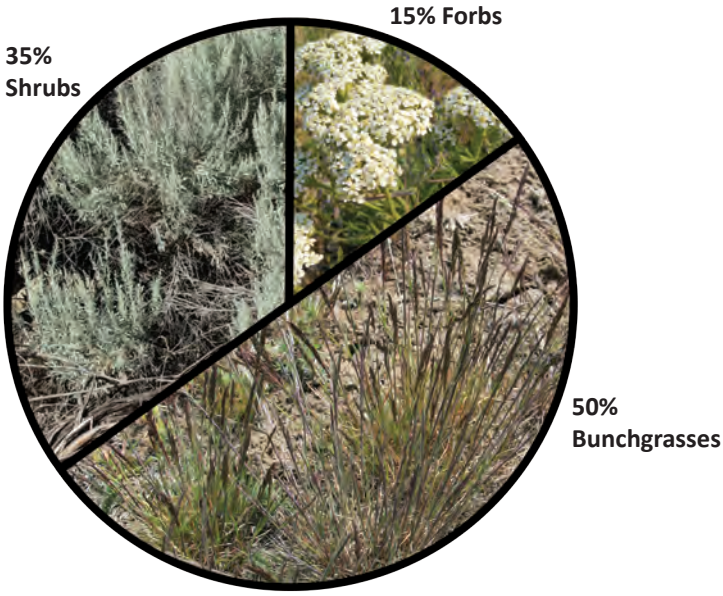
The pie chart shows how much of each plant group is normal for healthy sagebrush-steppe habitat. Is this what you see?

☑ Fill in the blank pie chart with your estimates of the different plant types you see. Forbs are hard to see from this distance, so look for cheatgrass instead. Cheatgrass is a nonnative grass that grows in a continuous mat, much like a lawn.

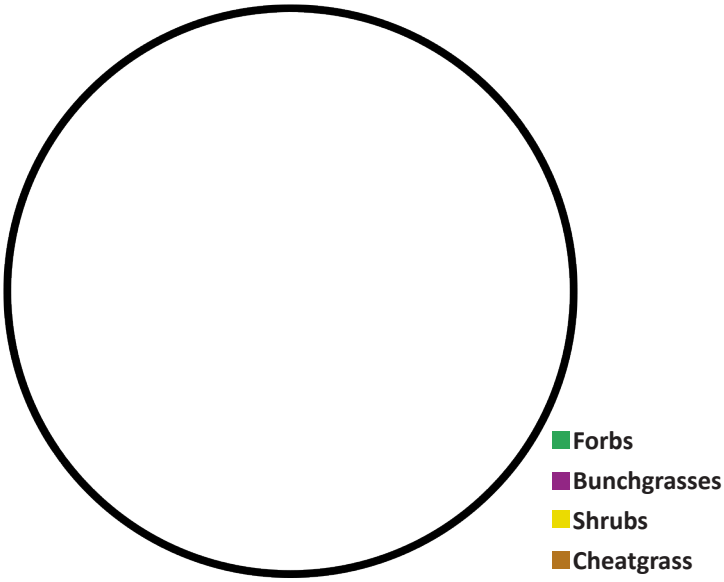
Why the big difference between the two charts? Most of the area around Initial Point has burned in wildfires since the late 1980s. Many shrubs and bunchgrasses did not grow back after the fires. Instead, nonnative invasive grasses, such as cheatgrass, moved in, crowding out the native plants.

When you get to Dedication Point, you will see an area that looks more like a healthy sagebrush-steppe habitat should look.

Sagebrush – Steppe Plants



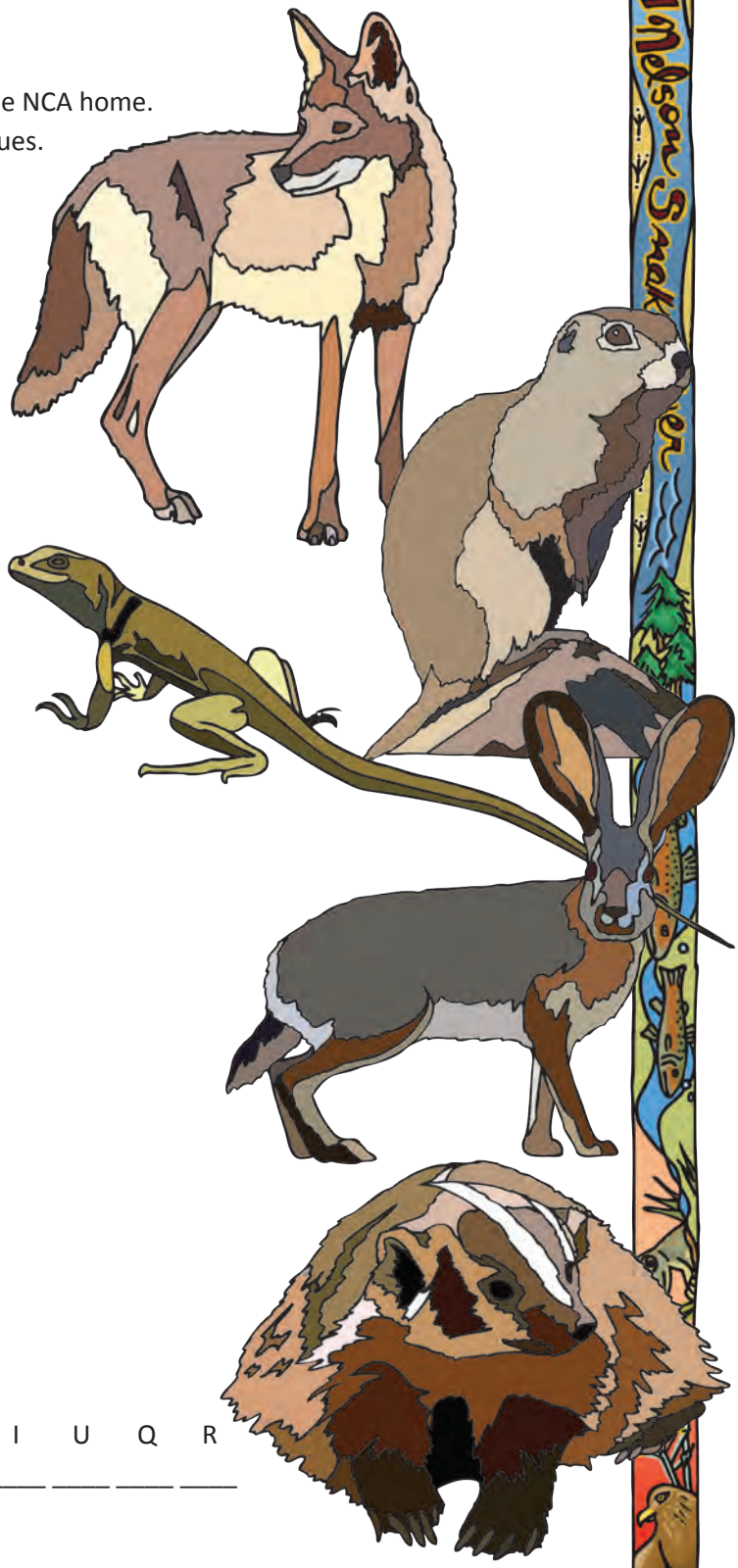
What I see.



Dedication Point

Welcome to Dedication Point, the overlook of the magnificent Snake River Canyon! Look as far and as wide as you can see, and imagine thousands of creatures living here. They're out there! Some you may see; others may be harder to find.

Unscramble the letters below to discover who calls the NCA home.
Hint: Look at pictures on this page and the next for clues.



Z D A L I R
___ ___ ___ ___ ___ ___

B J I B A R C A T K
___ ___ ___ ___ ___ ___ ___ ___ ___ ___

C T Y O E O
___ ___ ___ ___ ___ ___

D A G B R E
___ ___ ___ ___ ___ ___

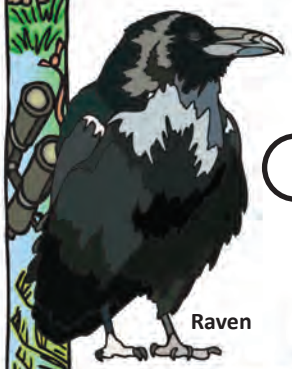
N U D R O G L E S R I U Q R
___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

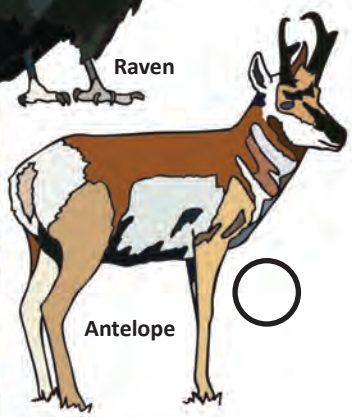
ANSWERS: (top to bottom) lizard; jackrabbit; coyote; badger; ground squirrel

The Living Is Not Easy for Desert Animals

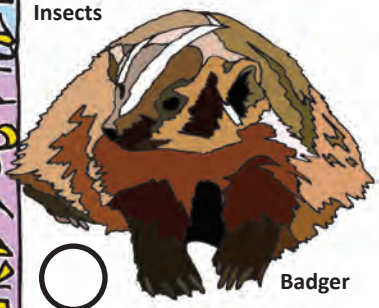
Desert animals have developed adaptations to live in this hot, dry environment, through things they do or through their body features.

Write the number of the adaptation in the circle beside the animal that it describes.


Raven


Antelope

Insects

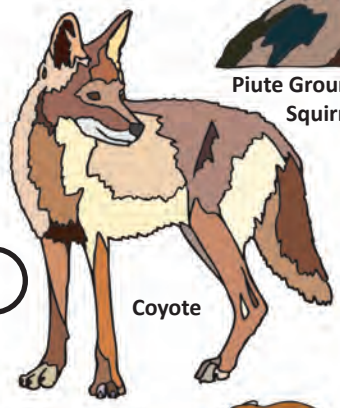

Badger

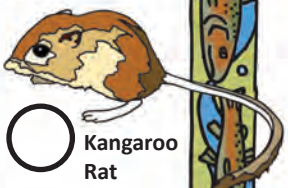
Raptor

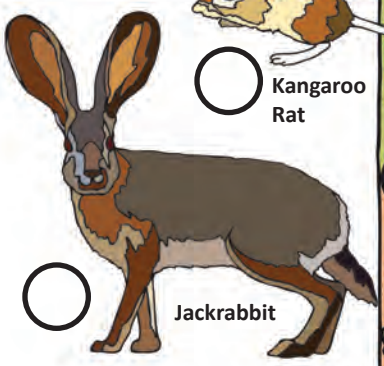
1. Seeks shelter in burrows during the heat of the day. **Hint:** This animal is the favorite food of prairie falcons.
2. Has big ears that release body heat when resting in a cool, shady location. **Hint:** This animal is the favorite food of golden eagles.
3. They straighten out their legs to move their hard, dark bodies away from the hot ground. **Hint:** They are very small.
4. Has thick, scaly skin to reduce water loss. **Hint:** This animal has no arms or legs.
5. Gets most of the water it needs from the animals it eats. **Hint:** This animal catches prey with its talons.
6. Is active at night, when it's cooler. **Hint:** This animal is known for being fierce.
7. Has no sweat glands, and so does not lose water by sweating when flying or moving around. **Hint:** Though it is a predator, this animal is not a raptor.
8. Eats plants that contain water. **Hint:** There are "two animals" in its name.
9. Has a light-colored coat that reflects the light instead of a dark coat that would absorb the sun's heat. **Hint:** This animal is a type of wild dog.
10. Travels great distances on its strong legs to find water in rivers and streams. **Hint:** This is the fastest animal in North America.

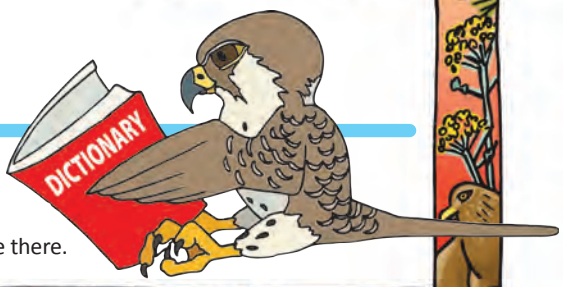
Snake

Piute Ground Squirrel


Coyote


Kangaroo Rat


Jackrabbit



ADAPTATION: A characteristic or behavior that a species has acquired over a long period of time that makes it suited to the habitat in which it lives.

BURROW: A hole or tunnel that a small animal digs in the ground so it can live or hide there.

ANSWERS: (left side, top to bottom) 7; 10; 3; 6; 5 (right side, top to bottom) 4; 1; 9; 8; 2

Dedication Point

Snake River Canyon Overlook

It's Not Easy Being a Desert Plant Either

Walk to the first bench past the gazebo.

Hey, are you thirsty? The plants here get very thirsty, too!
But they have tricks—adaptations—for holding onto the water that comes their way.

- Some have a thick, waxy covering to make it harder for water to escape.
- Most desert plants have very small leaves, which lose less water than larger leaves would.
- Some grow tiny leaf hairs that reflect the sun and keep them cooler.
- Some multitaskers use a tap root to pull moisture from deep in the soil and use shallow roots to absorb rainfall or snowmelt.
- At midday—the hottest time of day—many plants "roll up" their leaves to reduce water loss from exposure to sun and wind.

We all know that plants don't just sit there, right? They have work to do. It's called photosynthesis [foto-SIN-the-sis]: They transform light energy from the sun into chemical energy to feed themselves and grow bigger and stronger.

So if you were a thirsty desert plan, and could work the day shift or the night shift, which would you pick? Many plants choose to work at night when it's cooler, photosynthesizing the sunlight they stored during the heat of the day.

Come Meet the Natives!

Walk the trail through the shrubs and try to find four different types of shrubs and one grass. Match each plant you see to one of the Clue Sets shown on this page. Then use the number key to fill in the letters that will reveal the name of the shrub.

Number Key								
2 – a	6 – c	10 – f	14 – h	18 – m	22 – o	26 – r	30 – t	34 – w
4 – b	8 – e	12 – g	16 – i	20 – n	24 – p	28 – s	32 – u	36 – y

Clue Set 1

My leaves are small and covered with tiny hairs.
The tip of my leaves have three "teeth."
In late summer or early fall I have very small, golden flowers.
I have a sharp odor, especially after it rains.

I am ___ ___ ___ ___ ___ ___ ___ ___ ___ .
28 2 12 8 4 26 32 28 14

Clue Set 2

My leaves are narrow and do not have "teeth." They are often twisted.
I appear greener than other shrubs because my leaves lack hairs.
In late summer I have clusters of yellow flowers.

I am ___ ___ ___ ___ ___ - ___ ___ ___ ___ ___ .
12 26 8 8 20 4 26 32 28 14

___ ___ ___ ___ ___ ___
26 2 4 4 16 30

Clue Set 3

I am a very low shrub with short, narrow leaves.
I appear silvery, since my leaves and branches are covered by dense, long hairs.
In April and May I have small flowers that look like balls of cotton.

I am ___ ___ ___ ___ ___ ___ ___ ___ ___ .
34 16 20 30 8 26 10 2 30

Clue Set 4

My leaves are oval and fleshy.
My branches are generally pointed at the tips.
I get clusters of what looks like red or white flowers, but these are actually more like leaves.

I am ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ .
28 24 16 20 36 14 22 24 28 2 12 8

Clue Set 5

I am a tall grass that grows in clumps.
I stay green all year.
You'll find me at the base of the small rise.

I am a native ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ .
4 32 20 6 14 12 26 2 28 28

ANSWERS: 1. sagebrush; 2. green rabbit-brush; 3. winterfat; 4. spiny hopsage; 5. bunchgrass

You're STEPPING on Me!

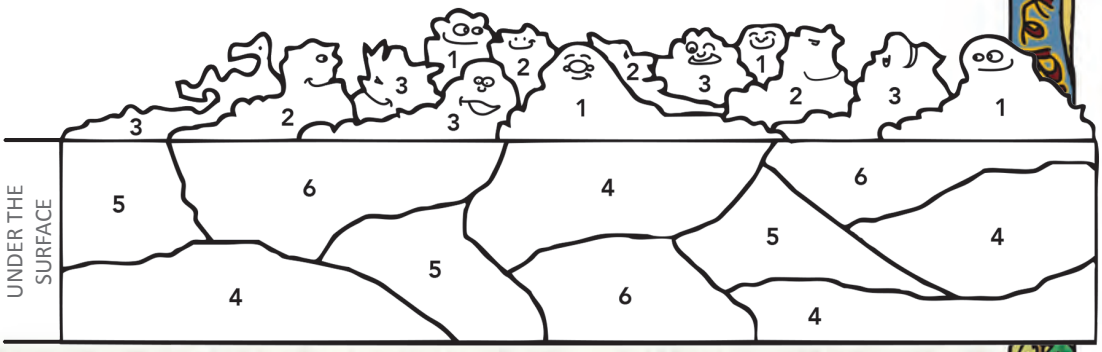
In the desert, even the dirt is alive! Look at the ground between and underneath the grasses and shrubs. Then pour a little water from your water bottle on it, and watch it swell up. Those are living organisms that form a crust on the soil. They make it easier for water to get into the soil, but harder for water to get out. They discourage weeds from taking root. And they provide a home for healthy microorganisms that are important to the desert ecosystem.

There are six different types of organisms in this crust. Three should be visible on your walk today, because they grow on the surface. Three more grow underneath.

Use the key to color the organisms in the sketch below.

Key

1 = mosses – green
2 = lichens – black
3 = algae – brown
4 = cyanobacteria – tan
5 = fungi – yellow
6 = bacteria – orange



Mosses – small, green plants that grow in soft clumps and have no flowers.

Lichens – a combination of fungus and algae or bacteria, in which the algae or bacteria makes food for the fungus through photosynthesis.

Algae – plant-like organisms most frequently found in water.

Cyanobacteria [SIGH-a-no-back-TEAR-ee-a] – blue-green bacteria.

Fungi – microorganisms that eat dead plants and animals and turn them into food for living plants and animals. Fungi include yeasts, molds, and mushrooms.

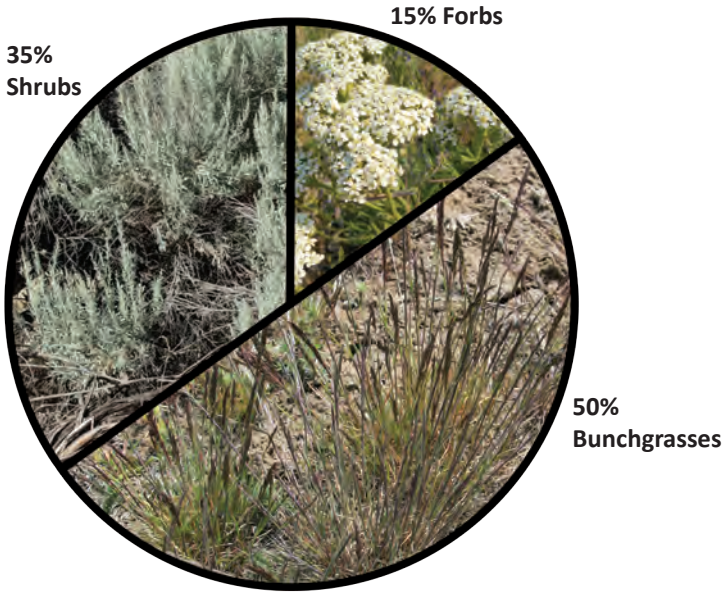
Bacteria – one-cell organisms living everywhere on Earth and in the bodies of most living things. They can be useful or dangerous.

MICROORGANISM: A microscopic (really small) life form.

Put Your Habitat Hat Back On!

From the top of the low hill, look back over the shrub area. How does this area compare with what you saw from the top of Initial Point? Look at the pie chart to remind yourself how much of each type of plant is normal for a healthy sagebrush-steppe habitat.

Sagebrush – Steppe Plants



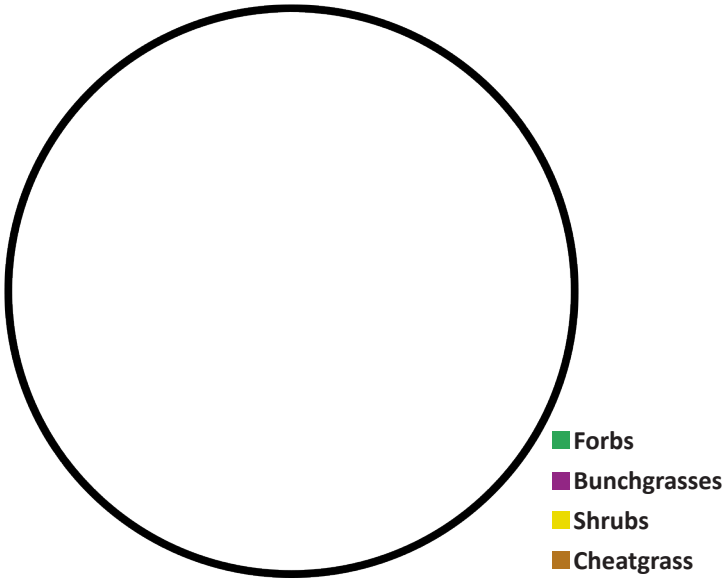
- Fill in the blank pie chart with your estimates of the different plant types you see. Around here you might notice the flowering forbs. Some cheatgrass is also present.

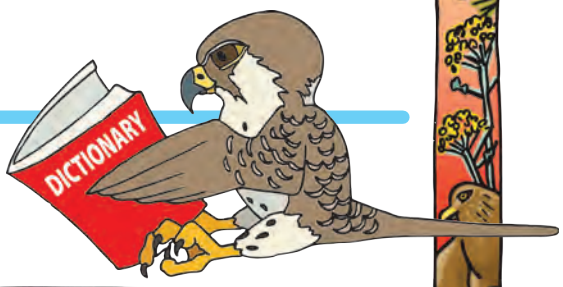
This area doesn't look like the area you saw from Initial Point, does it?

This area has kept the native grasses and shrubs that were lost to fires in the area around Initial Point. When it comes to how healthy sagebrush-steppe should look, this is more like it!

Head back to the main trail. As you do so, look for evidence of small wildlife—tracks, holes, and scat.

What I see.





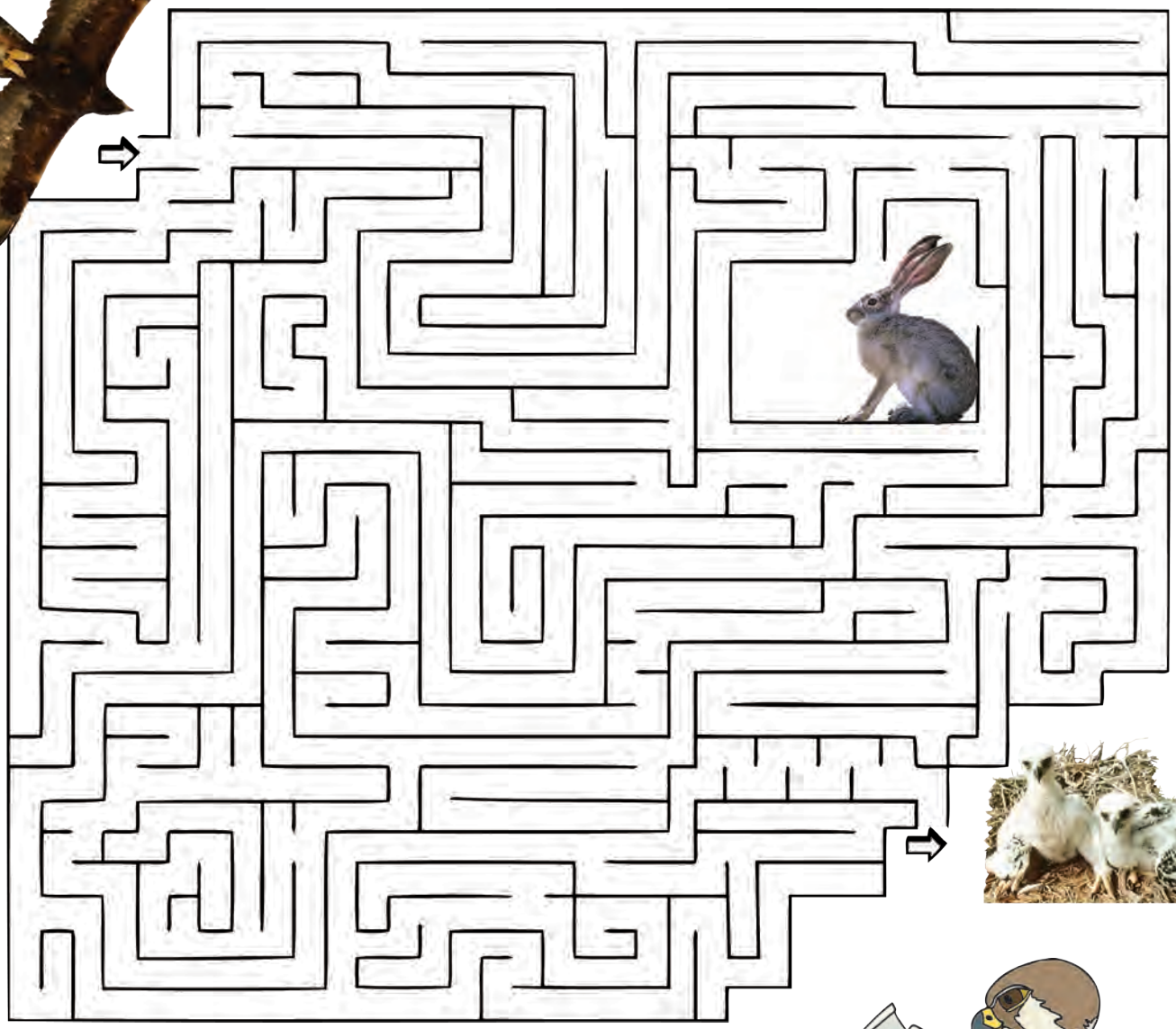
SCAT: Animal droppings, which may contain fur, bones, or other parts of another animal that this animal ate.

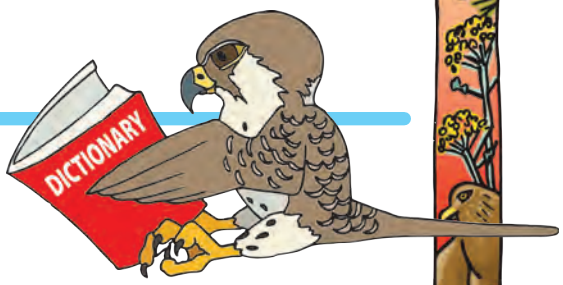
Don’t Overlook the Overlook!

Continue on down the trail to the Overlook.

You are now at the edge of the Snake River Canyon, and looking into a giant raptor nursery! Raptors build nests on cliff faces to keep their young safe from predators. The nearby plateau [plat-TOE] is like a grocery store. Full of prey, it makes for really good “fast” food for a parent with hungry nestlings.

- Golden eagles rise up out of the canyon and soar over the plateau in search of jackrabbits and other prey. Help this eagle catch a jackrabbit and then return to its nest to feed its young.

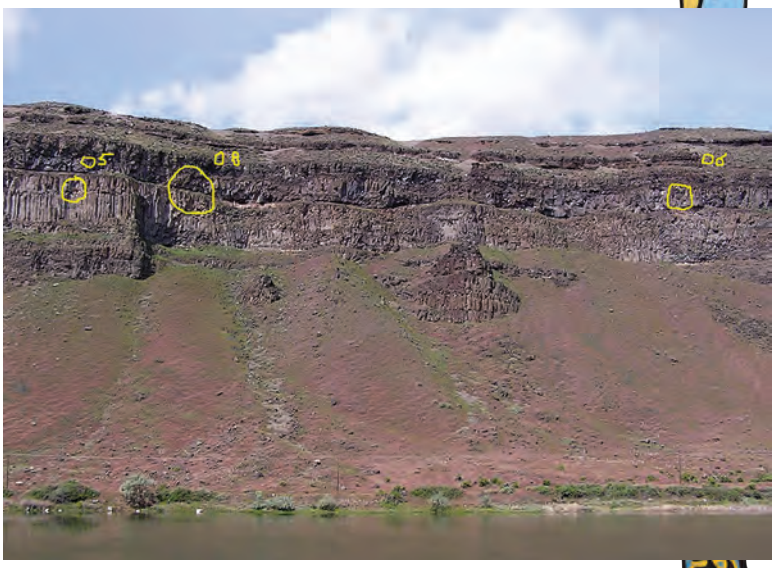




PLATEAU: A high, level piece of land.

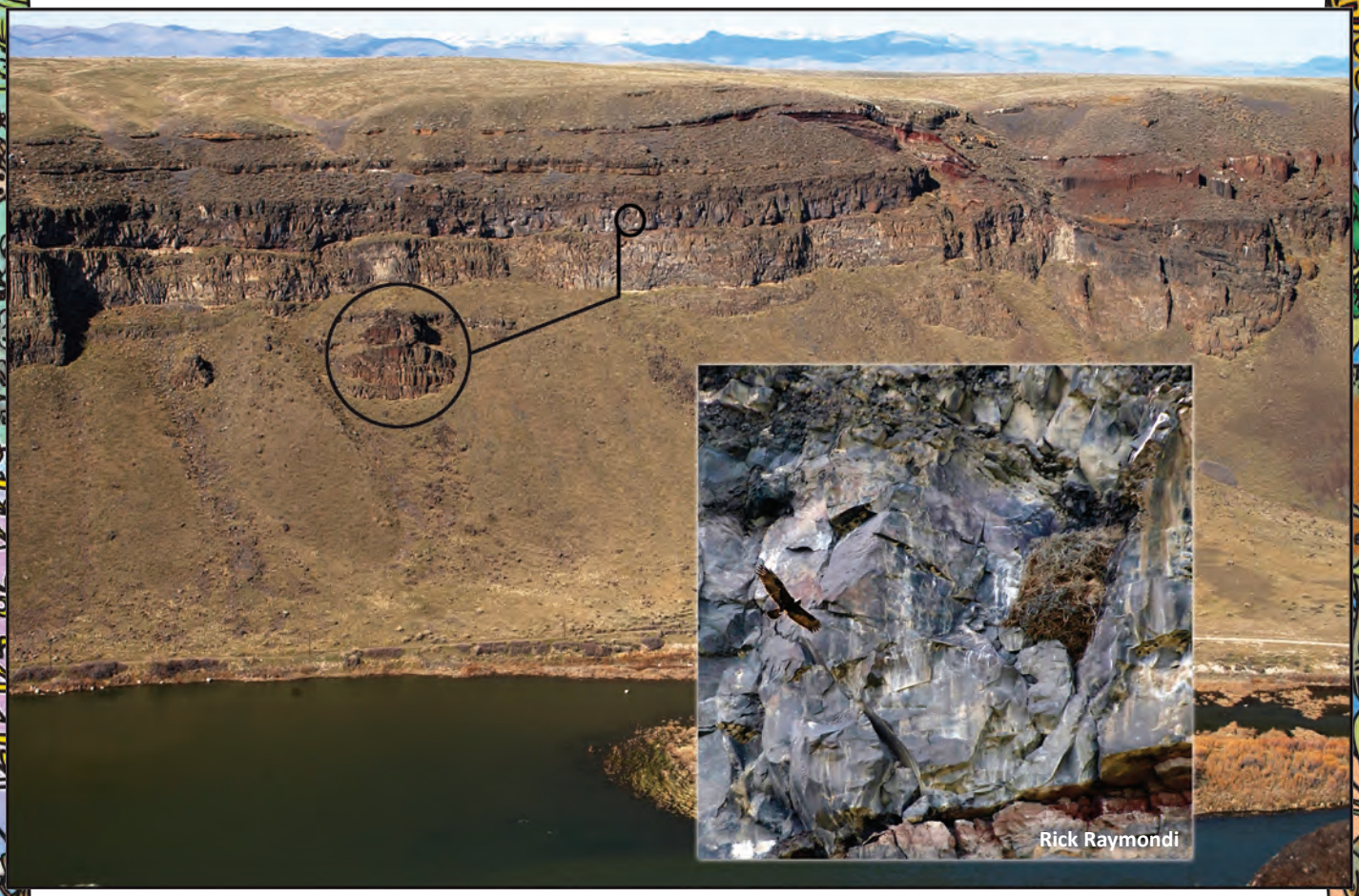
A Beecham Lullaby

Golden eagles have 8–12 nest sites in their territory! Each spring the pair checks out several nests until the female decides which one she wants to use that year. This photo shows the 2005, 2006, and 2008 nests of the Beecham pair.



- Use your binoculars and the directions below to locate the 2006 nest. You might see young eaglets in the nest if the pair is using that nest this spring!

Beecham golden eagle nest site



TO LOCATE – From the top of the large outcrop below the cliff go to the right until you see a pale horizontal band in the cliff face. From the left end of that pale band, go straight up the cliff until you "hit" a horizontal break in the cliff face. The nest is just above this break, a little to the right.

- True or False? Golden eagles frequently mate for life, with both parents taking turns incubating eggs in the nest and then finding food for their young. _____

ANSWER: true

Summary Activities

Thinking about Birds of Prey

Let us know what you learned about birds of prey and their habitat, or what you experienced in the places described in this booklet.

☒ Write about your favorite thing, or draw us a picture!

Raptor Rhymes

☒ Write a poem about a raptor that you saw. Try this!

Line 1: Write the name of the raptor.
Line 2: Write one or more words about how it looks.
Line 3: Write one or more words that describe what it does.
Line 4: Write about how it makes you feel.

Example
Golden eagle
Large and powerful
Soaring on the wind
Awestruck by its majesty

Your Poem
_____
_____
_____
_____

CONGRATULATIONS!

You have now finished your Junior Explorer experience!
We hope you had fun and that you learned something along the way.
Remember to read and sign your pledge and get your Junior Explorer certificate and badge (see instructions on page 1).

Junior Explorer Pledge

As a Bureau of Land Management Junior Explorer, I promise to:

- Do all I can to help protect and preserve the natural and cultural resources of our public lands,
- Be aware of how my actions can affect living things and the evidence of our history,
- Keep learning about the importance of nature and our heritage, and
- Share what I have learned with others!

_____ _____

Your Signature **Date**

Cut out and

save certificate

Volunteer To Help Raptors

Every year, the NCA invites volunteers to help restore the native habitat that is so important to the raptors you have seen and learned about. The kids in these photos helped plant sagebrush seedlings, which were grown from seeds collected by other volunteers. To volunteer for projects like this, call the BLM's Boise District Office at 208-384-3300.

JUNIOR EXPLORER
Morley Nelson Snake River
BIRDS of PREY
Junior Explorer

JUNIOR EXPLORER

BIRDS of PREY

Morley Nelson Snake River

BLM/ID/GI-14/003+8367

Junior Explorer

JUNIOR EXPLORER
Morley Nelson Snake River
BIRDS of PREY
Junior Explorer