

# Wildlife Express

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# Falcons!

Photo CCBY IDFG

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# What's a Falcon?

**When you see a falcon, it's easy to think that it's just like a hawk.** While hawks and falcons are both raptors, falcons are different. Even scientists were confused for a long time. They used to group falcons together with hawks. New information helped scientists put falcons into their own order and family. Families and orders are part of the system scientists use to group similar animals together. It is called classification. Falcons are now classified in the order **Falconiformes** (fal-CON-na-form-ees) and the family **Falconidae** (fal-CON-na-day). Wow, those words are mouthfuls! Let's take a look at what makes falcons different from hawks.

**Falcons have compact, streamlined bodies that are specialized for chasing and catching prey in flight.** Their long, pointed wings help them fly very fast and make quick turns in the air. Peregrine falcons have been clocked at 242 miles per hour when diving for a bird. That's fast!

**Flying at fast speeds creates challenges.** It can be hard for a bird to breathe when flying really fast. Falcons take care of this problem by having a special bony peg in each nostril. It is called a **tubercle** (TOO-ber-cul). Scientists think that the tubercles change how air flows over the nostrils when a falcon is flying. This makes it easier for them to breathe when speeding through the air.

Photos top to bottom: CCBY Greg Gard on Flickr  
Diving peregrine photo CCBY Marcus Peaston on Flickr.  
Tubercle photo CCBY Clint Budd on Flickr.

242 mph

Tubercle



**Unlike hawks that use their feet to kill their prey, falcons use their beak.** They have a special “tooth-and-notch” structure at the end of their beak. While it’s not really a tooth, it helps a falcon easily break the neck of a prey animal. That might sound mean, but making a quick kill is important for all predators. It would be hard to get a meal if your food fights back!



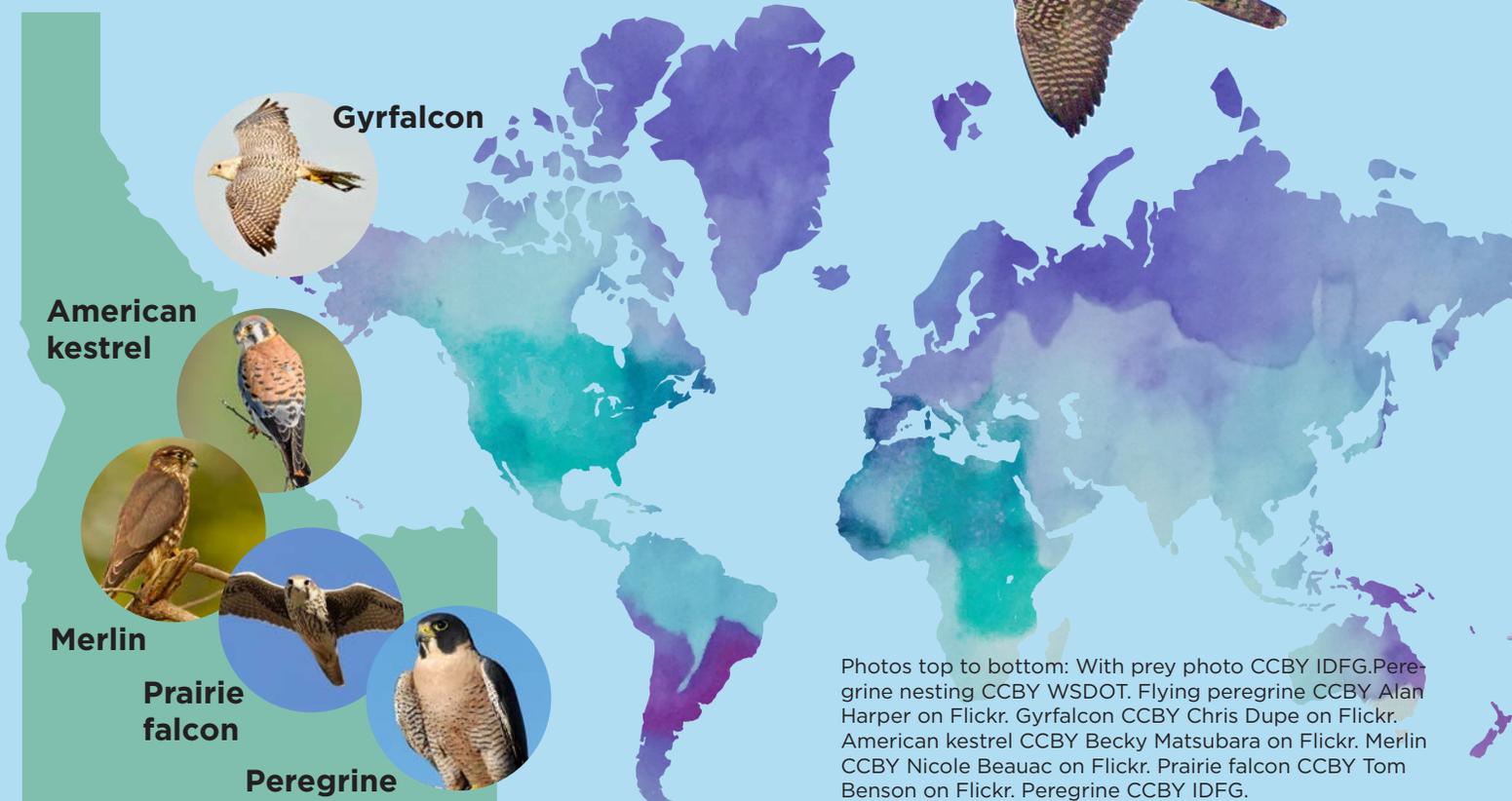
**The last important difference between hawks and falcons is their nest.** Falcons do not build stick nests. Some species, such as peregrine and prairie falcons nest on cliff ledges. Peregrine falcons will also nest on special manmade ledges in cities, like Boise. American kestrels nest in cavities in trees and will also use nest boxes. Abandoned hawk or crow nests are used by merlins.



**As a group of birds, falcons can be found all over the world.** Peregrine falcons live on every continent except Antarctica. **The name “peregrine” means wanderer.** For a bird that can migrate 15,500 miles a year, the name fits. Including peregrine falcons, about 64 different species live worldwide. In North America, six different species of falcons can be found. You can see five of those species here in Idaho. Idaho’s falcons include the peregrine falcon, prairie falcon, merlin, American kestrel, and gyrfalcon. The first four species nest in Idaho. The gyrfalcon is a rare winter visitor from the Arctic.



**Peregrine falcon**



Photos top to bottom: With prey photo CCBY IDFG. Peregrine nesting CCBY WSDOT. Flying peregrine CCBY Alan Harper on Flickr. Gyrfalcon CCBY Chris Dupe on Flickr. American kestrel CCBY Becky Matsubara on Flickr. Merlin CCBY Nicole Beauac on Flickr. Prairie falcon CCBY Tom Benson on Flickr. Peregrine CCBY IDFG.

# RAPTORS



**Burrowing owl**

**Birds of prey are a group of birds including hawks, eagles, falcons, and owls.** They are also called raptors. Most raptors catch and kill their food. Eagles also eat dead animals, called **carrion** (CARRY-on), especially in the winter. Raptors are very beneficial because they eat many things we think are pests. Since raptors come in all sizes, so does their prey. Small raptors like pygmy owls and kestrels eat insects and small rodents like mice. Large raptors like red-tailed hawks and great horned owls prey on rodents, snakes, and larger animals like jackrabbits and skunks. Bald eagles and osprey eat fish.

**Birds of prey range in size from the tiny 5-inch elf owl of the desert southwest to the large bald and golden eagles.**

Here in Idaho, our smallest raptor is the 7-inch tall pygmy owl. The bald eagle is our largest raptor.

**No matter what their size, raptors share some special characteristics.** Excellent vision helps these birds spot their prey. It also helps owls fly at night. Long sharp claws or talons help catch or kill food. A sharp hooked beak helps to not only kill prey but also tear food apart.



**Osprey**

**Raptors are incredible fliers.** They can glide, dive, hover and soar in the air. When gliding, a hawk holds its wings slightly tucked-in with its tail closed. This streamlined body shape gives the bird the speed needed to catch its prey. Flapping flight allows the bird to rise in the air and move forward.

Some raptors hover like the small kestrel, the large rough-legged hawk, and the osprey. While hovering, these birds scan for prey.

**When most of us think of a hawk, we picture a bird soaring high in the sky.** With wings spread, the bird simply “rides” the waves of warm air rising from the ground. These waves are called thermals. Raptors riding thermals can soar long distances at great heights. Migrating raptors seek out thermals to help them on their long journey. At other times they just seem to enjoy the ride. After watching a soaring raptor, it’s no wonder we all wish we could fly!



**Bald eagle**



**Pygmy owl**



**Peregrine falcon**

Photos top to bottom:

Burrowing owl CCBY Celeste Ramsay on Flickr. Bald eagle CCBY Nicole Beaulac on Flickr. Pygmy owl CCBY Deborah Freeman on Flickr. Osprey CCBY Beth Fishkind on Flickr. Peregrine falcon CCBY Kentish Plumber on Flickr.

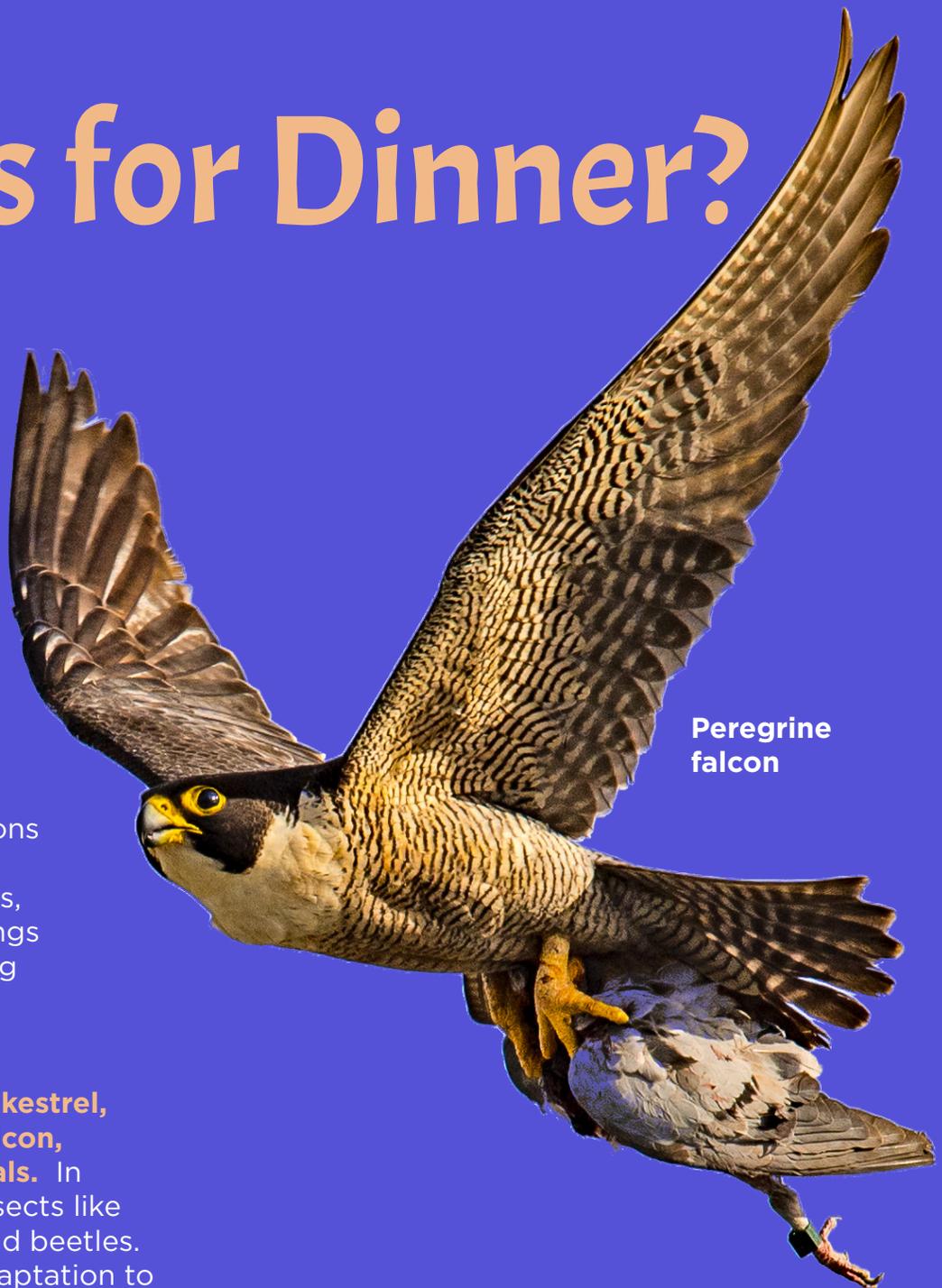
# What's for Dinner?

## **Falcons eat a wide variety of prey.**

Some falcons, like peregrine falcons, like to eat birds. They dive after flying birds like ducks, shorebirds and starlings. Sometimes, a peregrine will grab a bird right out of the air. Peregrines are also known for hitting a bird with their feet and then swooping to grab the falling bird. The smaller merlin also prefers birds, often hunting small songbirds. Prairie falcons and gyrfalcons eat birds, but add mammals like mice, voles, ground squirrels, and lemmings to their diet, especially during the nesting season.

## **The nine-inch tall American kestrel, North America's smallest falcon, eats small birds and mammals.**

In the summer, they also eat insects like grasshoppers, dragonflies and beetles. Kestrels have an amazing adaptation to help them find small mammals in grassy fields. They can see ultraviolet light, a kind of light that is invisible to humans. As it turns out, rodent pee reflects ultraviolet light! And rodents mark their trails with urine. A perched or hovering kestrel can see the urine along a mouse trail. All the kestrel has to do is follow the ultraviolet pee trail to track down a rodent meal. Kind of gross, but very cool at the same time!



**Peregrine falcon**



**American kestrel**

Photos top to bottom:  
Falcon with prey CCBY Paul Falfe on Flickr.  
American kestrel CCBY Heather Smithers on Flickr.



# Peregrine Falcon, Idaho's State Raptor



**Along with being our state raptor, Idaho has several other important connections to the peregrine falcon.**

The first is Idaho's commemorative quarter issued in 2004. The image on the coin is of a peregrine falcon. The second connection began outside of Idaho in 1970, when a scientist named Dr. Tom Cade formed The Peregrine Fund. Its mission was to help peregrine falcon populations recover from the careless use of chemicals during the 1950s and 1960s. These chemicals got into food chains. They killed peregrine falcons, bald eagles and other raptors. Chemicals also made raptor eggshells thin so they cracked, and the baby birds died.



**By 1970, peregrine falcons were extinct in the eastern United States.** Less than 100 peregrines lived in the West. Dr. Cade, other scientists, and falconers decided to try to bring back these falcons. Their pioneering work to raise and release peregrine falcons back to the wild helped save this falcon.

**In 1984, The Peregrine Fund moved to Boise and established the World Center for Birds of Prey.** They continued their important work to help peregrine falcons and it worked! In August 1999, the peregrine falcon was officially removed from the Endangered Species List in a ceremony at the World Center for Birds of Prey. It was a proud moment for Dr. Cade and all the others involved in the effort to save the peregrine falcon.

**Today, The Peregrine Fund World Center for Birds of Prey continues its conservation work.** Their scientists and volunteers are helping over 100 species of birds of prey around the world. On your next visit to Boise, make a trip to the World Center to learn about birds of prey and the conservation of these amazing raptors. For more information, go to their webpage at [www.peregrinefund.org](http://www.peregrinefund.org).

Photos top to bottom:

Morley Nelson BLM on Flickr. Peregrine flying CCBY Ron Knight on Flickr. Peregrine falcon CCBY IDFG. Contaminated food chain reworked from NatureMB.ca. DDT photo CCBY CDC Prevention, from National Park Service.





# Eye See You!

**Good eyesight is important to all raptors.** They can spot prey from long distances and keep it in focus until it is caught. Like most predators, raptors have eyes that face forward, just like yours.

Both eyes look at something at the same time. This is called binocular vision. Raptors can also see things off to the side by using their right or left eye by itself. This is called monocular vision. Try out your monocular vision by covering one eye.

**Because raptors have both binocular and monocular vision, they have two well-focused side views and one well-focused front view all at the same time.**

Large numbers of special cells called cones are grouped together to form **foveae** (fo-VEE). The foveae give the bird very sharp vision. Foveae also let the bird see in color. Birds of prey have two kinds of foveae. The central foveae provide sharp monocular vision on either side of the bird. Temporal foveae give the bird sharp binocular vision when looking straight ahead. These birds have three well-focused views at the same time. This is a big advantage when finding and catching prey that might be running, flying, or swimming.

**Birds of prey are also able to focus their eyes very quickly.** The lens in the eye and the shape of the eye can change rapidly. This keeps objects in focus. These changes in the eye are called “accommodation.” A falcon can spot prey two miles away. Because of accommodation, the hunting falcon can keep its prey in clear focus from the time it sees the prey until it is caught, and dinner is served.



Photos top to bottom: Peregrine CCBY Teddy Llovet on Flickr.  
Series of peregrine photos CCBY Sandy and Chuck Harris on Flickr.

# Winging It

**When you watch a bird fly, you might think that all bird wings are the same.** In fact, they are quite different. A songbird like a robin has different wings than a red-tailed hawk. And the hawk has very different wings than a Canada goose.

**Different birds use their wings in different ways.** For example, a red-tailed hawk soars high up in the sky. Its long, broad wings allow the hawk to take advantage of rising warm air, called thermals. The hawk can soar on the rising air for a long time as it looks for food. The long, pointed wings of a falcon let it make incredibly fast dives to catch flying prey.

**On the other hand, have you ever seen a robin dive-bombing an earthworm?** Of course not! Robins have short, broad wings that are good for flying through the trees, not diving through the sky. Birds like quail and grouse have short, rounded wings. Their wings help them with their explosively fast get-aways. But you will never see them soaring high in the sky. And you will never see a falcon fly away as quickly as a quail.

**Hummingbirds have very specialized wings.** These tiny birds are the only birds that can fly forward, up, down, and backwards. In fact, they are the only kind of bird that can fly backwards. Hummingbird wings also allow the bird to hover in front of a flower. Have you ever seen a robin, red-tailed hawk or grouse hover? Even if they cannot, their special wings allow them to do the flying they need to do to survive. Wings really are amazing!



Red-tailed hawk



Robin



Quail



# Falconry

**Falconry is the practice of hunting using a trained bird of prey.** People have been hunting with falcons for thousands of years. We know this because falcons and falconers are shown on ancient paintings, drawings, porcelain, coins, and in poems and books. Falconry has also been practiced nearly all over the world from China to the Middle East to Europe to North America.

**In the 1600s in England, falconry was very popular.** Only specific people could fly certain birds. For example, only a king could fly a gyrfalcon. Peregrine falcons could be flown by princes and earls. Ladies were allowed to fly a merlin. Because falcons were so valuable, it was often only the very wealthy or royalty that could fly birds. This is the reason that falconry has been called “the sport of kings.”

**Falconry in North America really did not start until after World War II.** In 1961, some dedicated falconers formed the North American Falconer’s Association. This organization helps interested people learn about falconry. It is not an easy sport! Falconers spend several years apprenticing with a Master falconer, learning how to care for and train a falcon. It takes seven years or more to become a Master falconer.

**Falcons require very special care.** They have to be fed specific food and need daily exercise. Their cages, called mews, have special perches and require daily cleaning. Falconry also requires special equipment like hoods, jesses, leashes, perches, gloves and other items. These also have to be well-taken care of to keep the bird comfortable. However, for those dedicated people who are willing to do all the right things to be a falconer, flying a falcon is an amazing experience.

**The Idaho Dept. of Fish and Game writes rules for falconers to follow when they are training or hunting with their bird.** Along with a hunting license, falconers also need several different state permits. In Idaho, falconers can hunt for upland game birds like grouse and quail, ducks, and cottontail rabbits and snowshoe hares. If you are interested in falconry, attend a falconry meet or go out with a falconer to watch them fly their bird. It will be a fascinating experience.

Photos top to bottom: Peregrine tools used in falconry CCBY Wikimedia. Red-tailed hawk CCBY Nikon FDSLRL on Flickr. Illuminated calendar CCBY Walters Art Museum. Lady falconer from Turkmenistan, Central Asia CCBY Angus Kirk on Flickr. Falconer CCBY Glenn Oakley for IDFG.



# Be Outside!

## Morley Nelson Snake River Birds of Prey National Conservation Area

### One of the most important raptor nesting habitats in North America is right here in Idaho.

The Morley Nelson Snake River Birds of Prey National Conservation Area is in southwestern Idaho, along the state's southern border. Towering 700-foot tall cliffs on both sides of the Snake River provide nesting habitat for 16 different species of raptor. Scientists have counted 800 pairs of nesting raptors in this area. It is considered the highest concentration of nesting birds of prey in North America, possibly the world! The nesting places on the cliffs are only part of the reason raptors like this area. Food for growing babies is the other. The habitat surrounding the cliffs is home to large numbers of ground squirrels and jackrabbits. Nesting raptors depend on these animals for food to feed their hungry babies.

### One raptor for which the conservation area is especially important is the prairie falcon.

Close to 200 pairs of nesting prairie falcons have been seen in the conservation area. In fact, it is considered one of the most important nesting places for these falcons. It has the perfect combination of steep cliffs for nests and a lot of ground squirrels for food. Prairie falcons arrive on the conservation area in February and leave in July. The hot summer months send the ground squirrels underground so the falcons spend the rest of the year in other habitats.

### Visiting the conservation area makes for an interesting trip.

From the amazing geology to desert plants and birds of prey, you can see a lot. For more information, check out the website [www.blm.gov/programs/national-conservation-lands/idaho/morley-nelson-snake-river-birds-of-prey](http://www.blm.gov/programs/national-conservation-lands/idaho/morley-nelson-snake-river-birds-of-prey).



Ferruginous hawks



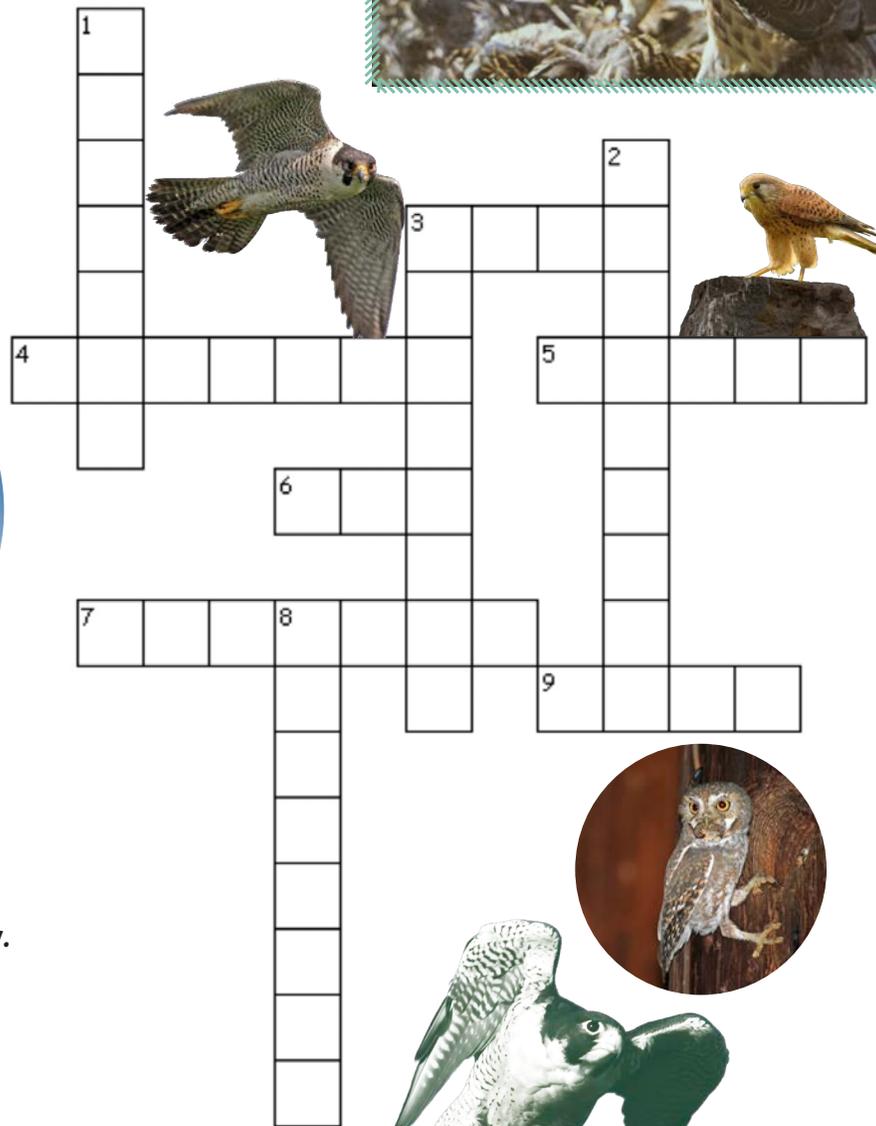
Golden eagle

# Falcons!



## Words

Beak  
Falconry  
Five  
Kestrel  
Nests  
Peregrine  
Pointed  
Raptors  
Tubercle  
Two



## Across

3. Idaho has \_\_\_\_\_ species of falcons.
4. This falcon can hover.
5. Falcons do not build stick \_\_\_\_\_.
6. A falcon can spot prey \_\_\_\_\_ miles away.
7. Another name for birds of prey.
9. Falcons use their \_\_\_\_\_ to kill prey.

## Down

1. Falcons have long, \_\_\_\_\_ wings.
2. This means wanderer.
3. Hunting using a trained bird of prey is called \_\_\_\_\_.
8. The bony peg in a falcon's nostril.



# Wildlife Express

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WE WOULD LIKE TO HEAR FROM YOU!

If you have a letter, poem or question for Wildlife Express, it may be included in a future issue! Send it to:

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