

Animal Helpers: Raptor Centers



by Jennifer Keats Curtis

Animal Helpers: Raptor Centers



Even powerful birds of prey can get sick or hurt. When that happens, animal helpers at raptor centers come to the rescue! Dedicated staff treat injured, sick, and orphaned animals. They return the birds to their native environment or find forever homes at education and raptor centers for those that can't survive in the wild. Follow along in this photographic journal as staff and volunteers come together to care for these remarkable birds.

Animals in this book include: American kestrel, bald eagle, barred owl, black vulture, eastern screech owl, golden eagle, great horned owl, Mississippi kite, northern harriers, northern saw-whet owl, osprey, peregrine falcon, and red-tailed hawk.

It's so much more than a picture book . . . this book is specifically designed to be both a fun-to-read story and a launch pad for discussions and learning. We encourage adults to do the activities with the young children in their lives both at home and in the classroom. Free online resources and support at www.ArbordalePublishing.com include:

- For Creative Minds as seen in the book (in English & Spanish):
 - Diurnal or Nocturnal
 - Raptor Adaptations
 - Match the Raptor
 - Valuable Volunteers
 - What to do if you find a raptor in need
- Teaching Activities (to do at home or school):
 - Reading Questions
 - Math
 - Language Arts
 - Geography
 - Science
- Interactive Quizzes: Reading Comprehension, For Creative Minds, and Math Word Problems
- English and Spanish Audiobooks
- Related Websites
- Aligned to State, Common Core & NGSS Standards
- Accelerated Reader and Reading Counts! Quizzes
- Lexile and Fountas & Pinnell Reading Levels

eBooks with Auto-Flip, Auto-Read, and selectable English and Spanish text and audio are available for purchase online.

Award-winning nature author **Jennifer Keats Curtis** is frequently found among students and teachers, talking about literacy or conservation. In addition to the *Animal Helpers* series, *Baby Owl's Rescue*, *Kali*, and *Turtles In My Sandbox* for Arbordale, some of her other recent titles include *Osprey Adventure*, *Saving Squeak: A River Otter's Tale*, and *Seahorses*. Jennifer resides in Maryland, with her family and a wide variety of pets. Visit her website at www.jenniferkeatscurtis.com.

Thanks to the following raptor centers and individuals for their photographs and knowledge:

- California Raptor Center, UC Davis School of Veterinary Medicine
- Carolina Raptor Center
- Raptor Rehabilitation of Kentucky
- Rocky Mountain Raptor Program
- The Raptor Center at the University of Minnesota
- Tri-State Bird Rescue & Research
- Peter McGowan of the U.S. Fish and Wildlife Service

Books in this series include:

- Animal Helpers: Wildlife Rehabilitators
- Animal Helpers: Sanctuaries
- Animal Helpers: Zoos
- Animal Helpers: Aquariums
- Animal Helpers: Raptor Centers



Jennifer Keats Curtis

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with California Raptor Center, UC Davis School of Veterinary Medicine; Carolina Raptor Center; Raptor Rehabilitation of Kentucky; Rocky Mountain Raptor Program; The Raptor Center at the University of Minnesota; Tri-State Bird Rescue & Research; and Peter McGowan of the U.S. Fish and Wildlife Service



red-tailed hawk



Even the fiercest wild animals, like raptors, sometimes need human help. Raptors—including owls, eagles, and hawks—are powerful birds of prey.



golden eagle



But even excellent hunters with keen eyesight, sharp talons, and strong beaks can break bones and damage their feathers. Fishing lines ensnare these tough birds. They get stuck in mud. They fly into windows. Sometimes these birds are poisoned or shot. Many are hit by cars. Sometimes raptors become so sick or injured that they cannot fly.



bald eagle



northern saw-whet owl



fledgling great horned owls

Baby raptors fall from nests or get blown out during storms. If their parents are not around, little chicks need help.

When these magnificent birds are injured, animal helpers in raptor centers come to their rescue.

If help is needed, volunteers rush the animals to the center or the experts go out to save them.



Just like in an emergency room, when a patient comes in, the staff evaluate her. Usually, it takes two people to carefully check the whole bird: eyes, beak, wings, body, tail, talons, and feathers.



Of course, people are trying to help; but the raptor does not know that and may be scared.





Raptor center workers are part pediatrician and part detective. Like doctors of young children, these experts must look for clues to figure out why these birds are hurt and how to help them heal.

Helpers check for broken bones. They determine if a bird needs bandages or surgery. Birds coated in oil, dust, or mud must be thoroughly washed.

Raptor helpers decide if a bird needs medicine or just quiet and rest. If a raptor is ill, helpers might draw blood to find out why the bird is sick.



bald eagle



golden eagle



black vulture

Scopes help these experts look deep into the eyes of raptors hurt by cars or falls. Many raptors break wing bones. If a bird needs an x-ray, a hood is placed over his head. He breathes in gas that helps him sleep, much like how people are put to sleep before surgery.

For Creative Minds

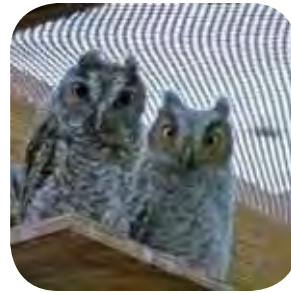
This For Creative Minds educational section contains activities to engage children in learning while making it fun at the same time. The activities build on the underlying subjects introduced in the story. While older children may be able to do these activities on their own, we encourage adults to work with the young children in their lives. Even if the adults have long forgotten or never learned this information, they can still work through the activities and be experts in their children's eyes! Exposure to these concepts at a young age helps to build a strong foundation for easier comprehension later in life. This section may be photocopied or printed from our website by the owner of this book for educational, non-commercial uses. Cross-curricular teaching activities for use at home or in the classroom, interactive quizzes, and more are available online. Go to www.ArbordalePublishing.com and click on the book's cover to explore all the links.

Diurnal or Nocturnal

Animals that are active during the day and asleep at night are diurnal. Animals that are active at night and asleep during the day are nocturnal. Read the following sentences and look for clues to determine if the raptor is diurnal or nocturnal.



The sun is high in the sky as the **American kestrel** perches on a telephone pole and watches for prey scurrying on the ground below.



These **eastern screech owls** wake up from a long day of sleep in their roost. As darkness falls, they prepare to hunt.



The **bald eagle** soars and hunts all day long before returning to roost for the night in the branches of a large tree.



One night the nest where these **northern harrier chicks** slept was damaged by farm machinery. Fortunately, a raptor center was there to help rehabilitate them!



After a long night of hunting, the **northern saw-whet owl** returns to her nest near a stream that runs through the forest.



In the afternoons, school groups and other visitors to the raptor center can see this **golden eagle** and learn more about his species.

Nocturnal: northern saw-whet owl, eastern screech owl
Diurnal: American kestrel, bald eagle, northern harrier chicks, golden eagle

Raptor Adaptations

Raptors are excellent hunters because of special adaptations that help them soar, swoop, see, and snag their prey.



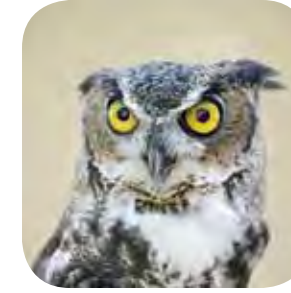
Like most other birds, raptors have nearly hollow bones. This x-ray of an injured raptor shows the dark, hollow spaces in the bones. Solid bones are heavy, but hollow bones are lighter and make flight easier for these birds. An adult bald eagle's wingspan is wider than an adult human is tall (5.9-7 feet or 1.8-2.3m). But even this very large bird weighs only as much as a human baby (10-14 pounds or 4.5-6.3kg).



Raptors soar through the sky on strong, powerful wings. They watch from high above the ground and wait to drop down on unsuspecting prey. The world's fastest animal is the peregrine falcon. When peregrine falcons dive to attack their prey, they can reach speeds of more than 200 miles (322km) per hour!



Sharp, hooked beaks help the raptor grab and hold onto their prey. Raptors can use their beak to tear their food into pieces or they can swallow their prey whole! Many prey animals have body parts that the raptor cannot digest, such as bones, fur, and claws. After a raptor eats their prey whole, these extra pieces form a pellet that the raptor spits up later.



If you have ever heard the phrases "eyes like a hawk" or "eagle eyes," you might already know that raptors have excellent vision. Raptors' eyesight is up to eight times better than a human's! An eagle can spot small prey the size of a vole or rabbit from more than a mile away.



Raptors have sharp, curved talons on their feet that slice through skin and hold tight so that wiggly prey cannot escape. Owls and ospreys have opposable "thumbs" that make it easier to move their prey as they hold it. Many raptors have rough patches on the bottom of their feet. These provide increased friction that makes it harder for prey to squirm free.

Match the Raptor

There are approximately 482 species of raptor worldwide: 304 diurnal species and 178 nocturnal species. That sure makes identification tricky! Do you know which raptors are which?



American kestrel



great horned owl



bald eagle



peregrine falcon

1. Small and speedy, this raptor can fly more than twice as fast as a car drives on the highway! Adults grow up to 14-19 inches long (36-49 cm) with a wingspan of 3.3-3.6 feet (1-1.1m). They mostly eat other birds and catch their prey in mid-air. This wandering **falcon** can be found on every continent but Antarctica and lives in many different kinds of habitats. Some travel as many as 15,500 miles (25,000 km) in a single year!
2. This tiny **kestrel** is the smallest species of falcon in North America—only 4.7 to 10.6 inches long (12-27 cm). The males have blue-gray feathers on their wings, while the females are reddish-brown. Both the females and males have vertical stripes of black feathers near their eyes. They are predators who eat small animals like mice, lizards, and grasshoppers. Their small size means that even these tough predators are at risk of becoming prey to another, larger raptor.
3. The only **eagle** found exclusively in North America is both the national bird and the national animal for the United States of America. They are easily recognized by the bright, white feathers on their heads. This eagle can have a wingspan as large as 7.5 feet (2.3m)!
4. Feathery tufts on this **owl's** head might look like ears, but they aren't. The ears are hidden in dark feathers on the sides of the bird's face. Their feathers are soft and make no rustling noises while the raptor is flying, allowing them to drop out of the sky onto unsuspecting prey. This nocturnal hunter sleeps during the day and tracks her prey at night.



Answers: 1-peregrine falcon, 2-American kestrel, 3-bald eagle, 4-great horned owl

Valuable Volunteers

Volunteers are very important in raptor centers. The veterinarians and rehabilitators rely on volunteers to:

- answer phone calls
- assist with releases
- carefully hold birds so that they don't get hurt when being examined, treated, or medicated
- clean cages
- educate the public
- exercise (fly) the raptors
- feed babies and adults
- raise money for these nonprofit centers
- transport birds to and from the center



What to do if you find a raptor in need

The best way to help a raptor in need is to call for help. Find a raptor center or licensed wildlife rehabilitator near you. You may also call US Fish and Wildlife Service (USFWS) or your state's Department of Natural Resources (DNR) or Department of Game, Fish, and Parks. All wild animals, even babies, can be dangerous. Raptors—with their powerful feet, sharp talons, and fierce beaks—do not understand that you want to help. They will try to defend themselves.

Do not try to take the raptor home or keep it as a pet. It is illegal to have raptors in captivity or to disturb nesting raptors without the proper permits from the State and Federal government.

To Kathy Woods, for equal parts inspiration, education, and laughter.—JKC

Thanks to the participating raptor centers and individuals for their photographs and for verifying the accuracy of the information in this book:

- ° California Raptor Center, UC Davis School of Veterinary Medicine, www.vetmed.ucdavis.edu/calraptor/index.cfm
- ° Carolina Raptor Center, www.carolinaraptorcenter.org
- ° Raptor Rehabilitation of Kentucky, www.raptorrehab.org
- ° Rocky Mountain Raptor Program, www.rmrp.org
- ° The Raptor Center at the University of Minnesota, www.raptor.cvm.umn.edu
- ° Tri-State Bird Rescue & Research, www.tristatebird.org
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Bibliography

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BirdLife Data Zone. Accessed January 24, 2014. <<http://www.birdlife.org/datazone/home>>.

Blair, Sharon K. "Caring for Raptors (Birds of Prey)." Bird Care & Conservation Society. Revised July 2000. <<http://www.birdcare.asn.au/pdf/raptors.pdf>>.

Collard, Sneed B. *Birds of Prey: A Look at Daytime Raptors*. New York: Watts Library, 1999.

Global Raptor Information Network. Accessed February 13, 2014. <<http://globalraptors.org>>.

IUCN Red List of Threatened Species. International Union for Conservation of Nature and Natural Resources. Accessed January 27, 2014. <<http://www.iucnredlist.org>>.

Laubach, Christyna M., René Laubach, and Charles W.G. Smith. *Raptor! A Kid's Guide to Birds of Prey*. Boston, MA: Storey Publishing, 2002.

Phoenix Wildlife Center. Accessed February 1, 2014. <<http://phoenixwildlifecenter.net>>.

"Raptors of the World." Raptor Research Foundation. Accessed January 15, 2014. <<http://www.raptorresearchfoundation.org/education/raptor-world>>.

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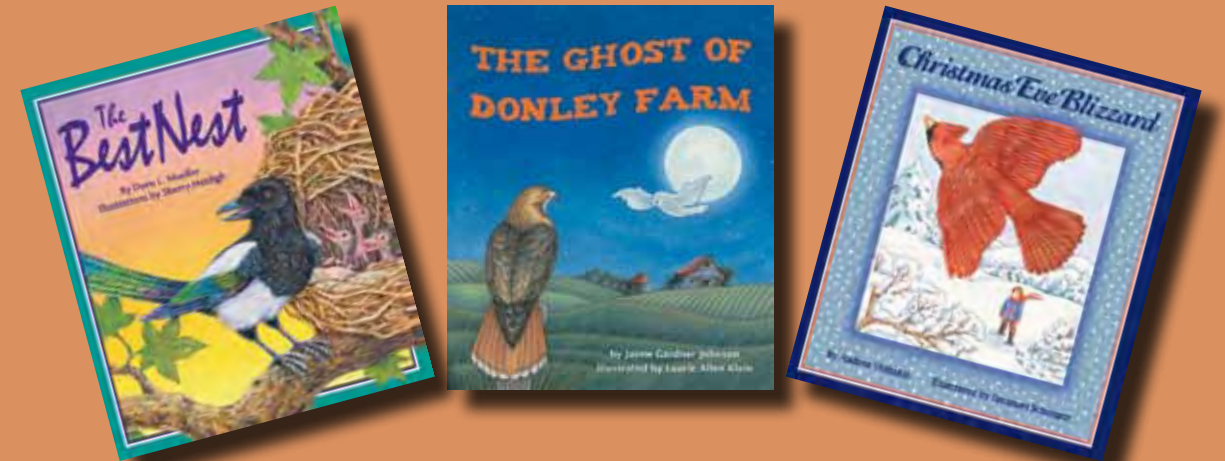
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