Bird of Prey Visit Learning Objectives:

After a visit from the Wildlife Medical Clinic birds of prey, students will be able to:

- Define bird of prey, raptor, wildlife rehabilitation.
- Compare and contrast a hawk versus an owl.
- Describe the goals of the Wildlife Medical Clinic.
- List three abilities an animal must have to be releasable.
- Describe what to do if you find an injured wild animal.

Introduction:

The Wildlife Medical Clinic was founded in 1978 in order to provide care to injured and orphaned native wild animals in central Illinois. Today, over 100 veterinary student volunteers provide care to the approximately 1500 wildlife cases that are brought to the University of Illinois Veterinary Teaching Hospital every year.

The Wildlife Medical Clinic (WMC) actually has three missions. In addition to providing medical care to wildlife, the goals of the clinic also include educating veterinary students on wild animal care and medicine, as well as working to conserve our local wildlife. Teaching the community about the wild animals that also call this area home is part of our conservation mission. To help communicate the importance of protecting the diverse wildlife species of Illinois, the Wildlife Medical Clinic has birds of prey that serve as education ambassadors. These are the birds you will meet today.

Kinkuna, the Laughing Kookaburra

History:

- This is not a native Illinois species – Laughing Kookaburras are originally from Australia!
- Kinkuna was a zoo animal, but due to long-term health problems he could no longer be kept on display.
- Kinkuna came to the WMC in 2010 so that he could receive daily care for his injured right foot, and to help teach people about birds of prey.
- His name is from the aboriginal word for laughter.

For more information visit the Wildlife Medical Clinic website at http://vetmed.illinois.edu/wmc/
Definition: **Bird of Prey**
- Any bird that hunts and eats other animals
- Kookaburras are birds of prey that eat lizards, snakes, insects, and mice.
  - Look at Kinkuna – what do you think kookaburras use to catch their prey?
    - Note the large beak – that is a kookaburra’s main weapon.
    - Kookaburras will grasp a small animal in their beak, and then beat it against a branch to kill it before swallowing it whole – Kinkuna will beat the mice we feed him against his perch even though they are dead when we give them to him!
- Can you name some birds of prey found in Illinois?
  - Belted Kingfisher → a kookaburra cousin that hunts fish and invertebrates
  - American Robin → hunts worms and insects
  - Great Blue Heron and American White Pelican → hunts fish
  - Red tailed hawk → hunts small mammals and birds
  - Great horned owl → hunts many different birds and mammals

**Odin, the Red Tailed Hawk**

**History:**
- Odin came to WMC in 1997 as a starving juvenile bird. We knew his age because red tailed hawks do not get a full red tail until there are 3 years old.
- Many young hawks like Odin struggle to survive their first winter because they are not skilled hunters yet. We think this is what happened to Odin.
- To save his life, we needed to put a needle in his bone to give him fluids very rapidly.
- Unfortunately, Odin got an infection at the site where the needle was. As a result, he has arthritis in his right wing, and cannot extend it fully. He will never be able to fly again.
- Due to his calm personality, we chose to keep Odin as an education ambassador to help teach people about red tailed hawks.

**Compare and Contrast: Hawk vs. Kookaburra**
- Look at Odin – what do you thing red tailed hawks use to catch other animals? Is it their beak like a kookaburra?
  - Red tailed hawks use their strong feet with sharp talons to catch other animals.
  - They do have a hooked beak for tearing meat, but they catch their food with their feet! This is why they are known as **raptors**.

**Definition: Raptor**
- A bird of prey that uses taloned feet to catch other animals

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Red Tailed Hawks as Hunters:
- Red tailed hawks are one of the top predators in North America – what do you think they eat?
  - Mice, rats, rabbits, squirrels, other birds, and even road kill
  - Odin is fed frozen-thawed mice, rats, and chicks
- Red tailed hawks have many adaptations in addition to their feed that make them skilled hunters:
  - Dark feathers on the back, and light feathers on the front help provide camouflage so they blend into the ground while eating, and into the sky while hunting
  - A ridge above the eye blocks the sun like a visor
  - They can dive at speeds up to 200 mph when chasing prey

American Kestrel

History:

Hawks vs. Falcons:
- American Kestrels are sometimes known as “sparrow hawks” they are not actually hawks! They are really falcons.
- What is the difference between a hawk and a falcon?
  - Flight Abilities:
    - When it comes to flight abilities, think of falcons being more like a fighter jet plane, and hawks being more like a passenger plane.
    - Falcons are generally faster than hawks, and are able to make sharp, quick turns.
  - Beak:
    - Unlike hawks, falcons use their beak in addition to their feet to kill their prey.
    - Falcons have little notch in their upper beak known as a **tomial tooth**.
    - Falcons use the tomial tooth to quickly kill their prey by cutting through the neck vertebrae.

American Kestrel Facts
- American Kestrels are the smallest falcons in North America.
- They can hover like a helicopter, and you may see them hunting above the grassy median on the highway.
- They are the only bird of prey in Illinois that is **sexually dimorphic**.
  - This means you can tell the males and females apart just by looking at them.
  - Males are blue and red, whereas females reddish brown.
  - All of our other resident birds of prey needed a blood test to tell us if they were male or female.

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the Eastern Screech Owl

History:

Owls vs. Hawks:

- Although both owls and hawks are both raptors that use their strong feet for catching other animals, genetically they are not closely related.
- Can you think of ways owls are different from hawks?
  - Owls typically hunt at night, and hawks typically hunt during the day.
    - Most owls are **nocturnal**, or most active during the night.
    - A few owl species, like the snowy owl, will hunt during the day, especially if food is scarce.
  - Owls have feathers covering their entire body, from their feet to their eyelids! Hawks and falcons lack feathers on their feet.
    - Being covered in feathers is part of the reason owls are completely silent when they fly.
    - Owl feathers are also much softer than hawk feathers, and owl wing feathers have a fringe on them.
    - Together, all these features muffle the sound of the owl flying so that their prey cannot hear them coming.
  - Feel the hawk and owl feathers – can you tell the difference?
  - Notice the large forward facing eyes. Compare them to Odin and Kinkuna’s eyes, which were smaller, and sat more on the side of their heads
    - Both owls and hawks have excellent vision, but owl eyes are better for seeing at night.
    - Larger eyes are better at capturing any small bits of light that are present, enabling owls to see at much lower light levels than humans or hawks.
    - The large size of owls eyes means that the eyes themselves are fixed in the owl’s skull.
    - As a result, unlike humans, owls cannot move their eyes. They could never become cross-eyed!
  - To see side to side, owls must turn their entire head.
    - Most mammals, including giraffes, only have 7 neck vertebrae. Owls have 14!
    - These extra neck bones make it possible for them to turn their head about 270°, or ¾ of a circle.

Other Owl Adaptations:

- Do you see the tufts of feathers on top of the head? What do you think they are?
  - Many people think these feather tufts are ears, but they are actually just feathers used in communication with other owls, and in camouflage to help the owl blend in with the bark on a tree trunk.
  - The ears are on the side of the head, just behind the eyes.

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• Unlike mammal ears, one owl ear is slightly higher than the other.
  o Compare the screech owl skull to the opossum skull. Notice how the holes for
    the ears are different heights in the screech owl, and at the same height in the
    opossum.
  o Having ears on either side of the head helps the owl locate a sound on the
    horizontal access (to the right and to the left), and asymmetrical ears allows
    owls to determine location on the vertical (up and down) access as well.
  o This means owls can hear in 3-D, and can pinpoint the exact location of prey
    animals based on sound alone!

Noel, the Northern Saw-whet Owl

History:
• Noel came the WMC in 2006.
• Like many of our patients, she was brought to the
  clinic by a good Samaritan who noticed something
  was wrong.
• Noel had damage to the radial nerve in her left wing.
  This meant that she could not extend that wing, and
  could not fly.
• We do not know how Noel was injured, or even how
  old she was when she came to the clinic since she
  already had her adult feathers.
• It is very common for us to not know much about our
  wildlife patients. Unless someone sees how they are
  hurt, we often can only guess what happened to
  them.

Definition: **Wildlife Rehabilitation**
• The Wildlife Medical clinic practices wildlife rehabilitation.
• **We provide care to orphaned and injured wild animals like Noel with the goal of
  eventually releasing them back to the wild.**
  o Sometimes wildlife rehabilitation is medical care, like healing a wound or fixing a
    broken bone.
  o Wildlife rehabilitation can also involve teaching an animal how to survive on its
    own, such as giving a young hawk the chance to practice its hunting skills.
• Unlike a dog, cat, fish, or hamster, wild animals are never really happy living inside, close
  to humans.
  o Being in a cage is very stressful to wild animals, and many have very unique care
    needs that most people are not capable of providing.
  o It can also be dangerous for inexperienced people to handle wildlife.
    ▪ Even little Noel has a sharp beak and talons. This is why we always hold
      our resident birds of prey using thick leather gloves.
  o Because of the challenges of caring for wildlife, it is illegal for anyone except
    those with a government license to keep and care for wildlife.

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• Licensed wildlife rehabilitators are people who have received special training to care for wild animals.
  o Most rehabilitators are not paid to care for wildlife. Wildlife rehabilitators and even wildlife clinics like the WMC are entirely dependent on donations from the public to help fund the costs of caring for their wild animal patients.
  o Wildlife rehabilitators always work to return an animal to the wild, as quickly as possible.
• If you find an injured or orphaned wild animal, do not try to care for it yourself!
  o Instead, do what the person who found Noel did – contact your local wildlife rehabilitator, and ask for their advice on how to capture the animal, and where to bring it for proper care.

Northern Saw-Whet Owl Facts:
• These are the smallest owls in Illinois.
  o The elf owl is the smallest owl in the world.
• They spend much of their time hiding to avoid becoming food for other predators like great horned owls.
  o To help avoid detection, they can throw their voice like a ventriloquist!
  o They are so good at hiding, we do not even know how many are in Illinois.
• They are named for the sharp, screeching call they make that is said to be like the sound heard when sharpening, or “whetting,” a saw blade.
• They typically hunt small prey items like insects and mice, though can kill animals as large as a pigeon!
  o If food is plentiful, they will only eat the head of the mice – this is frequently what Noel does!

Nokomis, the Great Horned Owl

History:
• Nokomis came to the WMC in 2003 as a fluffy chick. He had fallen out of his nest and broken his wing.
• Although we were able to heal his wing, he never really acted like a normal great horned owl.
• Great horned owls are also called “flying tigers” due to their highly aggressive nature. Although they will hunt mice and other small animals, great horned owls frequently take larger prey such as great blue herons and even sandhill cranes. Because they lack a sense of smell, they will even hunt skunks!
• Nokomis never really developed this aggressive nature. It is possible he was even pushed from the nest by more dominant siblings.
• Due to his very calm personality, Nokomis was determined to be non-releasable since it was unlikely he would able to defend a hunting territory in the wild.

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Releasable vs. Non-Releasable:
- For each of our wildlife patients, the WMC must determine if the animal is releasable.
- To be releasable, a wild animal must:
  - Be able to find and obtain food
  - Be able to avoid and protect itself from predators
  - Be able to produce offspring
- A non-releasable wild animal is one that cannot be returned to the wild.
  - For example, Noel’s nerve injury and Odin’s arthritis were medical problems we could never completely fix. Not being able to fly makes Odin and Noel non-releasable.
  - Nokomis’s inability to defend a hunting territory made him non-releasable.
- Many non-releasable animals are humanely euthanized since they would never be happy living their entire life in captivity.

Education Ambassadors
- A few non-releasable animals, like the raptors you have met today, have personalities that make them tolerant of living in captivity and around people.
- By keeping these birds as education ambassadors, we are able to share with people the unique and incredible animals that live around us.
- Many wild animals, including those in our own backyards, are struggling to survive due to habitat loss and other human activities.
- You can make difference for these animals! Simple actions, like not littering, recycling your trash, and keeping your cats indoors can be tremendously helpful for local wildlife.
- To ensure the continuing survival of wild great horned owls and red tailed hawks requires that everyone work towards the protection of our native wildlife.

Educational Tools
The Wildlife Medical Clinic may provide manipulatives to be used during educational presentations and the associated activities, in addition to others, are denoted by green text.