

Radical Raptors

Program Purpose

This program is designed to introduce participants to two live raptors, raptor myths, human/raptor interactions, and how raptors survive in the environment.

Length of Program

1 hour

Age

Grades 1st-adult

Maximum Number of Participants

20 (if taught in the nature center)

150 (if taught in the main lodge)

Objectives

After completion of all activities, students will be able to:

- Name the three defining characteristics of all raptors
- List several different types of raptors
- Explain how and why raptors and humans should live together peacefully.

Preparation

Before the class arrives:

- At least one hour before the class begins, place Beauty and the Owl in their transporting boxes.
- If the class will be taught in the nature center, place the raptors (in their boxes) in the animal room and **lock the door**.
- If the class will be taught in the main lodge, leave the raptors in the hallway of the raptor facility.
- Set-up dry erase board, perch, and props in the designated teaching room.

Basic Outline

- I. Introduction (5 minutes)
- II. Defining Raptors (10 minutes)
- III. Raptor/Human Relationships (5 minutes)
- IV. Presenting the Raptors (30 minutes)
- V. Conclusion (10 minutes)

Materials

Portable raptor perch
Dry erase board
Dry erase markers
Raptor foot
Stella
Beauty

Introduction

Introduce yourself and the title of the class. Explain to the students that today they will get the incredible opportunity to learn about raptors and view them up close and personal. In today's program they will learn about cultural myths surrounding raptors and different raptor adaptations. Ask the students to explain what a cultural myth

- *Cultural myth: a story told in a certain culture that is usually passed down from generation to generation; they are usually fictional or half-truths*

Then ask the students what an adaptation is.

- *Adaptation: something an animal has or does that helps it survive in its environment.*

Ask the students to share what they already know about raptors, also ask them about any positive or negative experiences they may have had with raptors. At this point do not differentiate between correct and incorrect information. Students with wrong information will learn the correct information throughout the program.

Defining Raptors

Ask the students to name the different types of raptors. They are :

1. Hawks
2. Eagles
3. Osprey
4. Falcons
5. Owls
6. Vultures

Some scientists have reclassified vultures as storks, instead of raptors, but tradition and some natural history keep vultures classified as raptors by many scientists and interested groups.

Instructor information: Raptors are divided into two scientific orders, Strigiformes and Falconiformes. This order is then divided into six groups: vultures (7 species), The Secretary Bird (1 specie in Africa), Hawks and Eagles (226 species), The Osprey (1 specie), Falcons (63 species), and Owls (148 species).

All raptors have three common adaptations, which helps classify them as birds of prey. Ask the students what these traits are.

- All raptors **eat meat** as their primary diet. The other two adaptations help them to eat meat.
- All raptors have **sharp talons**. Many students and adults may think of raptor talons as “claws.” Pass around the raptor foot for the students to see (if it is a small group). Ask the students what raptors use their talons for (catching, killing, holding, and carrying prey). A bald eagle can exert 4,000 pounds of pressure on the tip of one talon. In comparison, the Jaws of Life exert only approximately 1,200 pounds of pressure.

- All raptors have a **curved, hooked beak**. Ask the students why raptors would have a curved, hooked beak (to tear prey into pieces). The raptors will force the hook of their beak into the prey, then using their feet to hold the animal firmly in place, they pull back, ripping of a piece of flesh.

Now that the students have a brief introduction to raptors, move into how raptors and humans live together in the United States.

Introduction to Raptor/Human Relationships

Ask the students if raptors are protected by the government (yes). Ask the students if raptors were always protected (no).

Originally in the United States, raptors were viewed as murderers and thieves. They were accused of stealing and killing livestock (sheep, chickens, calves, etc.). The government even offered bounties in some states for killed raptors. That meant that for every dead raptor a person brought to the proper officials, they would receive a set amount of money. This drastically reduced the number of raptors and brought some raptor populations to the brink of extinction.

Finally, the United States recognized the importance of raptors. Ask the students why they think raptors are important. Raptors control the rodent population, which prevents huge losses of agricultural products every year. Raptors are also extremely important in maintaining a healthy ecosystem with a proper balance of predators and prey. Ask the students to define the words predator and prey. Raptors are predators and near the top of the food chain.

Today, the Federal Migratory Bird Protection Act and the Endangered Species

Act protect raptors. Along with many other things, these acts make it illegal to possess a raptor, dead or alive, or any part of a raptor. Ask the students why Upham Woods can keep two raptors. Upham Woods possesses federal and state permits that allow us to keep injured, unreleasable birds of prey if we use them for education. Ask the students if they could keep a raptor at their home (no). Explain that it is now time to finally bring out Stella and Beauty!

Presenting the Raptors

Tell the students that there are several things they'll have to do and remember while the raptors are out.

- Each raptor will be connected to and controlled by the instructor in several ways: the instructor will be holding the jesses (leather straps around the raptor's ankles), holding a leash connected to the jesses, and holding the bird on a leather glove.
- When the raptors are out, everyone must remain quiet and still (ask the students to find a comfortable position right now).
- If you have a question or comment, you can raise your hand quietly. Do NOT shout or wave your hand dramatically in the air.
- It is okay to take pictures of the raptors, they do not mind a flash, but they do not like the "rewind noise" on disposable cameras. Ask the students to get out any cameras (if they want to take pictures) and rewind them now. At the end of each raptor presentation, the instructor will tell the students when it is time to take pictures.
- While the raptors are out, they might do three things: bait (try to fly off the glove), rouse (fluff up the feathers and lay them down again), and go to the bathroom. Ask the students not to get excited and out of control about these things because they will happen.

Stella

- Stella is a Barred Owl and came to Upham Woods in December 2001. We received her from the Raptor Education Group in Antigo, Wisconsin. She was probably hatched in the spring of 2000. During the spring of 2001 a car in northern Wisconsin hit her. She hurt her right wing and was brought to the rehabilitation center. Her caretakers thought that she would recover, but her wing had already started to heal and it healed incorrectly. Because of this, Stella can not sustain flight for long distances and considered unreleasable. This is why we have her.
- In the wild, Stella would eat rodents, birds, snakes, and other small mammals. In captivity, Stella is fed mice, rats, beef heart, quail, whole chickens, and chicken legs.
- Stella is full-grown and weighs approximately 2.2 pounds.
- **Adaptations**
 1. Owls have the ability of *silent flight*. Ask the students why this is an important adaptation for owls (they hunt at night, to sneak up on their prey, and to hide themselves from predators). Make Stella bait to demonstrate silent flight for the students. Later, you will demonstrate what Beauty sounds like when she flies.
 2. Owls eat their prey whole or in large pieces. Because they can not digest the bone, fur, and feather they ingest, they must eject an *owl pellet* containing the indigestible portions of their prey. They must eject the owl pellet from their last meal before they can eat again. Show the class some of Stella's owl pellets.
- **Cultural Myths**
 1. *West Africa and Malawi*: owls are the messengers of wizards and witches (like in Harry Potter).

2. **Inner Mongolia:** Owls enter the house by night to gather human fingernails.
 3. **Poland:** an old story tells how the Owl does not come out during the day because it is too beautiful, and would be mobbed by other, jealous birds (in reality, smaller birds mob owls because owls prey upon them).
 4. **England:** If you walk around an owl in a tree, it would turn and turn its head to watch you until it rung its own neck (in reality, owls can only rotate their heads 270 degrees).
 5. **United States:** If you hear an owl cry you must return the call, or else take off an item of clothing and put it on again inside out.
- Demonstrate a Barred Owl call: “Who cooks for you? Who cooks for you all?” Ask the students to quietly try to imitate a Barred Owl call.
 - Ask for any questions about Stella.
 - Provide a picture opportunity of Stella.
 - Put Stella away

Beauty

- Beauty is a Red-Tail Hawk and came to Upham Woods in the summer of 2000. She was given to Upham Woods by Northwoods Wildlife Center. Beauty was probably hatched in the spring of 2000. When she was approximately six months old, a truck hit her. This accident left her blind in her left eye and also injured her left wing so that she can not sustain flight for long distances. In the warm weather or when she flies a lot, her left wing will droop. Show the students both of her eyes and see if they can notice how the left one is different.
- In the wild, Beauty would eat mice (about 10-15 per day/70% of their diet) birds, rodents, snakes, and other small mammals. In captivity, Beauty eats the same things as Stella: mice, rats, beef heart, whole chickens, quail, and chicken legs.

- Beauty weighs approximately 3.6 pounds.
- **Adaptations**
 1. Beauty has **featherless feet and legs**; this is because red-tail hawks usually migrate during the winter time. Raptors that migrate do not need the feathers for extra warmth. Beauty does pull alternating legs up to her chest to keep them warm. Stella had feathers on her legs; this is because barred owls do not migrate in the winter.
 2. Raptors are very light compared to their volume. This is because many of their **bones are hollow**. Air sacs within their bones are connected to their respiratory system. If a large bone in Beauty was broken (for example, one of the main bones in her wing), she could actually “breathe” out of the exposed end of the broken bone because of the connected air sacs.
- **Cultural Myths** (in process of trying to locate some myths or information on falconry)
- Demonstrate the “psshh, psshh” sounds that mother red-tail hawks make to their fledglings to comfort them. Have the students make this sound to Beauty.
- Ask for any questions about Beauty.
- Provide a picture opportunity of Beauty.
- Put Beauty away.

Conclusion

Review questions can be used as the end to once again reemphasize the knowledge covered in this lesson.

- What are the three adaptations that are unique to raptors?
- Why are raptors important to humans?
- What can we do to help protect raptors?

If you are teaching a small class, and have additional time, you may want to pass out paper and pencils to allow the students to write a cinquain poem:

- First line: name of object (noun)
- Second line: two words to describe the object (adjectives-each word should be a separate thought)
- Third line: three words which tell what the object does or can do (verbs, each word should be a separate thought)
- Fourth line: four words to describe how you, the poet, feels about the object (adjectives and adverbs-again, each word should be a separate thought).
- Fifth line: Repeat the first line or use a synonym
- Example:

eagle
graceful, fierce
kills, eats, soars
magical, powerful, warm, mighty
the national bird

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