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AUDUBON



## Historical Threats to Wildlife & Recent Extinctions

**Goal:** Students are made aware of the historical threats to wildlife, and the ways in which humans have failed wildlife in the past. Students learn about some recent extinctions, and some close calls. We discuss how remembering these tragedies can help us prevent more species from going extinct in the future.

Science | History

Grades 4 – 6  
(with adaptations for K-8)

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## Performance Standards

Environmental Education

### Total lesson time: 1 hour

Lesson: 40 minutes

Discussion: 20 minutes

### Materials needed:


PDF Presentation on Historical Threats to Wildlife & Recent Extinctions

Projector & laptop/ smartboard for PDF presentation

### Lesson

#### Tips:

- Write the new vocabulary words on the board so that kids know how they are spelled AND teachers can refer to them later on in the presentation and throughout the day.
- During our pilot lessons, it was more engaging for the class if one student took notes in a visible way during the presentation (either on a large notepad, chalk board or white board). The rest of the class saw what that student was highlighting, and this reinforced key ideas.



## Notes Corresponding to PDF Presentation:

(Slide/page #. Notes)

1. Introduce yourself & the lesson topic
2. Today we're going to talk about the historical threats to wildlife. (historical: in the past, specifically the time between colonization of the New World and WWII).
  - a. Does anyone know what these phrases might mean? Have any ideas?
3. When colonist first arrived in what is now the United States, they couldn't believe how much wildlife was here! People had hunted so much in Europe, that there wasn't much wildlife left. They thought there were so many animals here that there was NO WAY they could hunt them all.
  - a. This lasted through the revolutionary war, through westward expansion, all the way up until the civil war.
  - b. Who knows why people hunt today? How about why people hunted back in the olden days?
  - c. People kept hunting, and eating, and selling wildlife. Some of them did it to survive, some of them did it to make money.
4. During the Civil War, and for a while after the war, there was MARKET HUNTING. Who knows what this means?
  - a. Hunting more animals than you can use yourself, and selling them for a profit.
  - b. They used many guns that we use today, but also some that are now illegal to use. This is a picture of a "punt gun", and was basically a small shotgun cannon hybrid. People would fire into a flock of ducks, and kill 50 birds with one shot!
  - c. On the left, is a picture of a successful weekend of hunting TODAY: 5 men harvested 25 ducks. They will save them, and eat them all winter long. They'll share them with their friends, but NOT sell them.
    - i. On the right, is a picture of a successful day of hunting in the late 1800s: 3 men took 45 ducks JUST ON THE SMALL SIDE OF THE BOAT. They will sell them for profit. Many of the ducks will rot on the way to market, and be wasted.
  - d. Market hunting is illegal now- people cannot sell wildlife that they hunt. However, this law came too late for some birds.
5. PASSENGER PIGEON
  - a. A little larger than a mourning dove
  - b. Only lay one egg at a time, and both adults help raise the one chick.
  - c. Over ONE MILLION birds roosted in the same nesting tree- sometimes they broke branches off of the tree!
  - d. They traveled in flocks of MILLIONS of birds. When they all flew past, they would block out the sun's rays for hundreds of miles. It would take days for them to pass a location.
  - e. Since there were SO MANY birds, people thought they could hunt them without hurting their populations.


- i. They ate the adults and chicks. Eggs too.
- ii. People collected eggs, and wanted passenger pigeon eggs for their collections.
- iii. Since they all nested at the same time, the chicks were easy to get.
- iv. Scientists think that the Passenger Pigeon needed large flocks to stimulate nesting behavior- when the flocks got too small, they didn't know when it was time to nest anymore.
- v. Passenger Pigeons also need lots of food (since there are so many of them) and lots of eyes to help find the food. When flocks got smaller, it may have been harder for them to find food.
- vi. The last wild Wisconsin bird was shot in Babcock, in Wood County (central Wisconsin).
- vii. A few individuals remained in captivity in zoos or at universities.
- viii. Martha died at the Cincinnati Zoo (Ohio) on Sept 1, 1914.
- ix. We lost a SPECIES.


6. MILLINERY TRADE: Who knows what the Millinery Trade is? – making fancy hats!

- a. Around the 18 & 1900s, people wore REALLY fancy hats. Women started liking hats with bird feathers in them, sometimes they even had whole birds on their hats.

7. CAROLINA PARAKEET

- i. A parakeet that once lived in half of the US, and in Wisconsin too!
- ii. Lived in flocks of 500+
- iii. Ate fruit, nuts, seeds. Liked forested areas near rivers
- iv. For the first 200 years after Europeans had colonized the us, the birds survived like usual
- v. In the 1800s, their populations began to plummet!
  - 1. Farmers hunted them because they ate their crops: apple, nut & other fruit trees
  - 2. Were hunted for women's hats
  - 3. Since the birds traveled in huge flocks, it was easy to kill many at once. They also went back to visit injured or killed birds, making themselves easy targets.
  - 4. When they became rare, people also collected their study skins, eggs, and feathers- DEFINE STUDY SKIN (the picture: a mount so that people would know what the bird looked like. You could "study" to learn to identify it)
  - 5. People in Europe also wanted them as pets.
- vi. The last wild parakeet was shot between 1901 – 1904
- vii. Incas was the last living Carolina Parakeet. He died on February 21, 1918 at the Cincinnati Zoo (Ohio).
- viii. We lost a species.

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- b. Another bird that was greatly hunted for their plumes was the Snowy Egret (And other Egrets too!)
    - i. This bird did NOT go extinct, and we'll talk more about it tomorrow.
    - ii. Note the feathers on the head, neck and back- and match them to the feathers in the hat.
  - 8. HABITAT LOSS: who knows what we mean by this?
    - a. Every animal has a specific habitat they need. When we take away that habitat, there is less space for that animal to live: less food for it to eat, less shelter, less room for others of its kind to live.
  - 9. IVORY BILLED WOODPECKER
    - a. This is a woodpecker as large as a crow! They were striking birds that lived in the Southern US
    - b. They are large birds, that required large patches of habitat. They liked old-growth mature forested wetlands (bottomland forests).
      - i. Old-growth: has never been cut before- lots of big old trees, some of them decaying.
      - ii. "Bottomland Forests" = swampy forest. Lots of water.
    - c. Fed on insects, beetle larvae, some fruit & nuts.
      - i. Because they ate mostly beetle larvae, they needed lots of old, recently dead BUT still standing trees for the beetles to use.
    - d. People also like large trees- they are good for building things like furniture and houses. As people cut down the trees, the woodpecker habitat shrunk.
    - e. In the 1930s, scientists began to realize that there were almost none of these woodpeckers left, and they wanted to study the remaining population.
    - f. In the 1940s, there was almost no old-growth hardwood forest left.
    - g. When collectors and scientists knew the bird was likely going to go extinct, they began collecting specimens for their museums- making the population even smaller.
    - h. Scientists thought that they might have found one last Ivory Billed Woodpecker in 2005, but they think the population is extinct now.
      - i. We lost a species.
  - 10. DDT & PESTICIDE USE
    - a. Insects spread malaria, typhus & other diseases. Killing these insects helps keep these diseases in check.
    - b. DDT is an insecticide that kills insects.
    - c. It was very important during WWII for keeping soldiers healthy.
    - d. After the war, people began using it at home in the United States. Farmers used it to keep their crops safe from insects, towns used it to kill mosquitoes, and people used it in their homes to keep bugs out!
    - e. DDT is a poison- it kills insects. It stays toxic in the environment for YEARS after it had been sprayed in an area.

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- i. This is good for people, because they only had to spray once to keep pests down for years.
  - ii. This was bad for the environment because DDT built up in the food chain.
- f. BIRDS OF PREY
- i. DDT, and many other chemicals, is stored in animal fat: when an animal eats something that is contaminated with a chemical, that chemical is stored in its fat. It stays in the animal's body.
  - ii. Small fish ate plants or insects that had some DDT in or on them. Those small fish then had DDT in their bodies. Larger fish ate many of those small fish, and got more DDT in their bodies. This kept going all the way up the food chain, until Bald Eagles and Osprey ate really big fish.
  - iii. DDT build up in very high concentrations in these big birds, because they ate contaminated fish for many years.
  - iv. The toxic buildup inside the birds' bodies made them unable to lay strong eggs. The eggshells were thinner than they should be.
    - 1. Who knows how birds keep their eggs warm?
    - 2. When the adult birds would sit on their eggs, they would crush them.
  - v. DDT use was banned in the US in 1972
  - vi. Raptor populations are starting to rebound, or increase- we'll talk about this more next time.

**Adjust this lesson for different age groups:**

**Less Challenging:**

**More Challenging:**

**Resources:**