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AUDUBON



Success Stories in
Wildlife Management

Goal: Students are made aware of the historical threats to wildlife, and the ways in which scientists have brought species back from the brink of extinction. We discuss the ways we can learn from future near-extinctions to prevent this from happening in the future.

Science | History

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

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Performance Standards

Environmental Education

Total lesson time: 50 Minutes

Lesson: 40 minutes

Discussion: 10 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. Yesterday was a sad lesson- who remembers what was sad about it?
 - a. We discussed extinctions.
3. Who remembers the species that we talked about yesterday? Which species have gone extinct?
 - a. Passenger Pigeon, Carolina Parakeet, Ivory Billed Woodpecker
4. Who remembers the threats to wildlife that we talked about?
 - a. Market hunting, habitat loss, millinery trade, DDT & chemicals
5. SNOWY EGRET
 - a. Last time we talked about the Snowy Egret, and how it was hunted for its plumes. Who remembers which feathers on the egret were used for hats?
 - i. The long ones on the back, neck, and head.
 - b. In 1910, people became concerned about Snowy Egrets and other birds used to make hats. They formed clubs and talked with their friends about how important birds were. They convinced their friends to do the right thing, and not buy hats with bird feathers in them.
 - i. In 1918, the Migratory Bird Treaty Act was passed
 1. Official, legal protection for all migratory birds.
 - a. Can't sell, buy, hold, trap, transport, trade
 - b. Birds, feathers, nests, eggs, bird parts,
 - c. UNLESS- you are a scientist and have a permit given to you by the government.
 - d. Unless it is a game species (Who knows what a game species is?- one that is hunted and managed)
 - c. This was GREAT news for Snowy Egrets.
 - i. As soon as the hunting stopped, Egret populations began increasing
 - ii. We caught them before it was too late, and they were able to come back all on their own!
6. DDT & PESTICIDES
 - a. Who remembers what DDT is? – a pesticide, used to kill insects like mosquitoes
 - b. Who can think of a good thing about DDT? – keeps people safe from insect-borne disease, keeps pests off of farmer's crops.
 - c. Who can think of a bad thing about DDT? – builds up in the environment, is a poison, kills wildlife, kills insects, THINNING EGG SHELLS
 - d. Who can think of a species of bird that was hurt by DDT? Bald eagles or Osprey (any raptor, really)
 - e. BALD EAGLES: scientists estimate that when the US was founded, we had over 100,000 eagles. In 1963, we had less than 1,000.


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- f. PEREGRINE FALCON: while there were never a TON of falcons, there were only about 600 left in the entire United States in 1975.
 - g. DDT was banned in the US in 1972.

7. RAPTOR REBOUND

- a. So DDT has been banned, but both Bald Eagles and Peregrine Falcons were endangered species- we were close to losing them!
- b. Scientists began to take drastic steps to save them.
 - i. Egg fostering: : taking eggs from one nest and putting them in another location to raise them. When you remove the eggs from an eagle nest, the parents will lay more eggs. The removed eggs can be given to other adult eagles to raise, or incubated by a machine. This increases the number of eggs that would be laid each year!
 - ii. Foster Parenting: chicks are removed from adult eagles that are not good at parenting, and given to eagles (or humans) who will successfully raise them.
 - iii. Hacking: eagles usually return to the place that they took their “maiden flight” when it’s time for them to nest. If we want to increase the number of eagles in an area, we need to have young eagles leaving nests there. Juvenile eagles that are too young to fly (about a month and a half old) are brought to these new locations. They are fed by humans, and provided with an artificial nest. Eventually the chicks leave this nest, and are on their own.
 - iv. Rehabilitating: eagles that have been injured or become sick are treated by wildlife rehabilitators. They take care of the eagle until it is able to fly and hunt on its own.

8. WHOOPING CRANE

- a. Who knows what a Whooping Crane is? Has anyone ever seen a Sandhill Crane?
- b. Whooping Crane populations got VERY low because of habitat destruction
 - i. Who knows what habitat is?
 - ii. Why is habitat destruction bad?
 - iii. Why might people destroy animal habitat?
- c. People also hunted the adults and collected the eggs.
- d. There were only two small flocks of birds: then a hurricane destroyed one of the populations.
 - i. There were only 15 birds left in the ENTIRE WORLD in the 1940s.
- e. In 1989, 22 Whooping Cranes were sent to the International Crane Foundation in Wisconsin.
 - i. There is a fantastic captive breeding population there
 - 1. Who knows what captive breeding means? – keep adult animals in a zoo, and they produce babies. The babies can



then either be kept to make more young, OR they can be released into the wild.

- ii. Today the ICF has 31 adult Whooping Cranes, and they produce 10-20 chicks each year for reintroduction into the wild.
 - iii. They take the eggs from the parent cranes, just like the eagles, and the cranes lay more eggs. That way, each set of birds produces two nests: one for the scientists to raise, one for the adult birds to raise.
 - iv. The scientists wear costumes so that the baby Whooping Cranes don't imprint on humans
 1. Who knows what "imprint" means? (baby birds imprint on their parents, or whichever species is taking care of them. The baby birds follow the individual they imprint on, and learn from them).
 2. The baby cranes learn how to forage for food by watching the scientists, and how to fly from watching adult cranes.
 - v. Just before they're ready to migrate south in the fall, the scientists put colorful bands on the Whooping Crane's legs. Some of them also get a transmitter, so the scientists can track where they are.
 - vi. The cranes learn to follow an ultra light airplane when they first start flying. This plane leads them south on their first migration.
 - vii. The cranes learn the route that first time, and are able to return to Wisconsin each spring!
9. DISCUSSION QUESTIONS:
- a. Why do you think we were able to save these birds? What steps were important to bringing them back from the edge of extinction?
 - b. Why weren't we able to save the passenger pigeon, the Carolina parakeet, and the ivory bill?
 - c. DDT is a complicated issue: there are many reasons why using DDT might be a good thing for some people, and why banning DDT was a good idea. What do you think?
 - i. Would there ever be a time when using chemicals to kill insects is OK?

Adjust this lesson for different age groups:

Less Challenging:

More Challenging:

Resources: