

WILD TIMES

FOR KIDS

WILDLIFE ON THE BRINK

The eastern hognose snake is an endangered species in New Hampshire. Much of its habitat has been lost to development in the southern part of our state. When threatened, these snakes have a dramatic defense display including hissing, mock striking, and playing dead. They can even flatten their head and look like a cobra, but it's all an act. Sometimes people kill them, thinking they are dangerous, but hognose snakes are harmless to humans.

Populations of wildlife are always changing. Their levels go up and down depending on both natural causes and human actions. If the *population* of a species gets too low, that plant or animal may become endangered or disappear altogether. When that happens, an animal or plant is said to be *extinct*. It no longer exists anywhere in the world.

It matters when wildlife becomes extinct, because every living thing in an ecosystem affects all the other living things in that system. Since we don't know everything about the natural world around us, no one is sure how the loss of just one plant or animal would affect all the others.

We also need to think about the potential benefits that wildlife may have for humans. A plant or animal may be important to finding the cure for a disease or illness. If it disappears from the earth, we would have lost not only some of our diversity, but we also lose an important opportunity to help improve the lives of people.

Let's take a look at some animals that are at risk in New Hampshire and how people are trying to help.



ENDANGERED WILDLIFE

Extinction is not something new. Fossil records show that many plants and animals have become extinct since life first appeared on earth. During the past 300 years, three birds once found in New Hampshire – the passenger pigeon, the heath hen and the great auk – all became extinct. You and I will never see one of these birds alive.

In New Hampshire many plants and animals are at risk of becoming extinct if conditions don't change soon. Scientists call them *endangered*. There are many reasons why species become endangered. The most important reason is loss of *habitat*. An animal's habitat is its home – where it finds the food, water, shelter and living space that it needs to survive.

Many changes to habitat are natural and sudden. Ice storms, hurricanes and wildfires can change the landscape, benefitting some wildlife but not others. Disease can affect an entire plant or animal population (see *Where Have the Bats Gone?* at right).

Climate changes and the natural aging and growth of plant communities happen more slowly. Some plants and animals can adapt to gradual changes in habitat; others cannot. One of New



The bobolink is a bird that needs fields with tall grass to survive. If we don't preserve this habitat in New Hampshire, the bobolink may become endangered.

Hampshire's birds, the *bobolink* needs open fields with tall grass to survive. When fields grow into forests, the bobolink can no longer live there.

People change habitats in many ways. Habitat is often lost when people construct buildings and roads, but other changes are harder to see. The spread of *invasive* species (non-native species that disrupt another species' habitat), like the Asian longhorned beetle, can threaten our forests. Environmental pollutants like acid rain can affect the aquatic ecosystems that support many species, from brook trout to frogs and salamanders.

Some animals adapt to change better than others because they can move away or find another food source. But what happens when an animal can't change or move? Karner blue butterfly caterpillars can eat only wild blue lupine leaves. If this plant is not available for food, this butterfly will die out. Schoolchildren in Concord are helping to save this endangered species by planting wild lupine.



School children from Concord plant wild lupine to help the state endangered Karner blue butterfly.

Where Have the Bats Gone?

New Hampshire's bats are in serious trouble. The familiar *little brown bat* is almost gone from our state. Populations of five of New Hampshire's eight species of bats have decreased dramatically. Our bats are dying from a fungus that grows on their wings and nose while they hibernate during the winter. Biologists call the disease *White-nose Syndrome*, because bats with the fungus look like they have fuzzy white mold on their muzzle and wings.

Bats with White-nose Syndrome were first discovered in caves in New York during the winter of 2006-2007. In just six years, the disease has spread to more than twenty states, including New Hampshire, killing millions of bats each year. Biologists are working hard to save them, but have not yet discovered how to stop its spread or a way to treat the disease, which is almost always fatal to bats.

White-nose Syndrome is a white fungus that kills many species of bats. Most of the little brown bats in our state are now gone because of this mysterious disease.

Little brown bats hibernating in a cave during winter. This used to be common just a few years ago. Now, over 90% of these bats have died in the Northeast.



Like all mammals, bats have fur and give birth to live young. They only have one or two pups each year. Bats are the only mammals that can truly fly. They are nocturnal, which means they are active at night, when they prey upon flying insects. Did you know that one bat can eat nearly half its body weight in insects in one night? That can be as many as 1,500 *mosquitoes*! Without healthy bat populations, insect pests will thrive, spreading disease and damaging farmers' crops.

What can you do to help? If there are bats in your barn or attic, leave them alone. Bats may be living there to raise their young. Don't seal off the openings to the outside. Let's do what we can to keep bats flying in our night skies.



BRINGING BACK THE BUNNIES

The *New England* cottontail rabbit is getting lots of attention from wildlife biologists in New Hampshire. It was common just fifty years ago, but now this small brown rabbit is so scarce it's considered an endangered species. What happened?

The main reason for the decline in their population is loss of habitat. New England cottontails do best in areas with lots of shrubs, young trees and grasses. There, they find the cover they need to hide from predators and the right plants for food.

As farmland in New England changed to forest in years past, grasses grew tall and small shrubs and saplings grew in. It was perfect habitat for New England cottontails. Over time, trees replaced the shrubs and grasses and the protective cover and food were gone. As a result, New England cottontails are found today in only a few small areas of the Northeast.

New England cottontails need shrubby habitat to hide. This protects them from many predators.



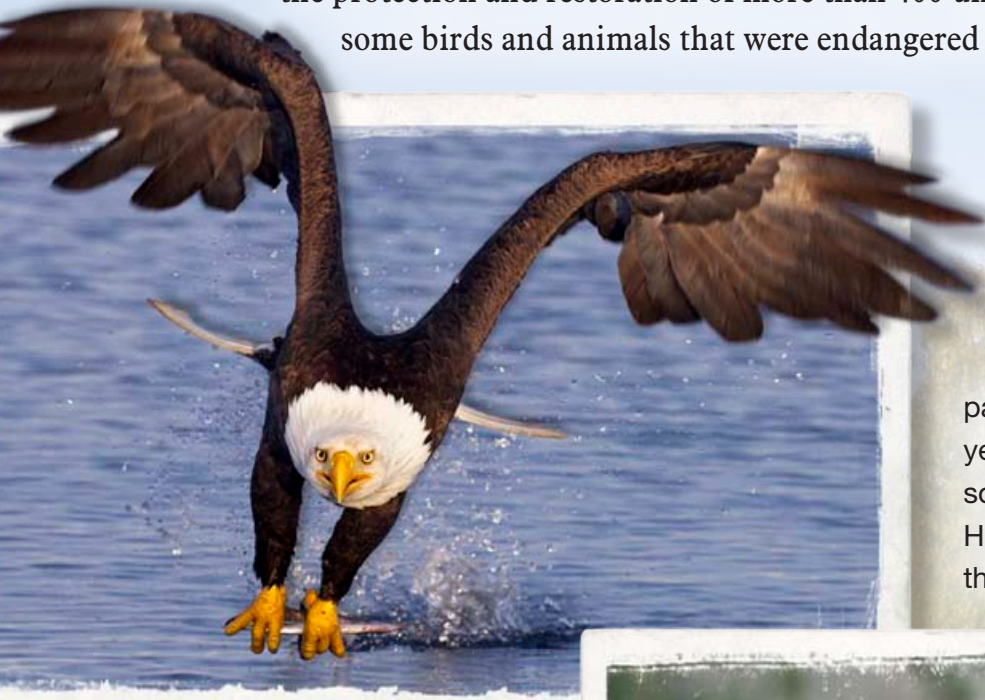
Fish and Game's wildlife biologists are helping the New England cottontail make a comeback in New

Wildlife managers are working hard to restore New England cottontails. One way they are helping is by creating more shrubby habitat that is important to this rabbit's survival. Wildlife biologists have also captured wild New England cottontails in Connecticut and are breeding them in captivity. The young will be released into the wild in New Hampshire and other states to help increase the population of our native wild bunny.



PROTECTING ENDANGERED WILDLIFE

For 25 years, New Hampshire's Nongame and Endangered Wildlife Program has been responsible for the protection and restoration of more than 400 unique species. Thanks to these efforts, some birds and animals that were endangered in our state are now success stories:



Bald Eagle

Monitoring and regulations put in place by the **Bald Eagle** Protection Act in 1940 led to record numbers of bald eagles throughout their range. In New Hampshire, the number of nesting pairs is now the highest it has been in 20 years! This beautiful bird of prey once again soars over the coasts and rivers of New Hampshire. Bald eagles were removed from the federal Endangered Species List in 2007.

American Marten

Once common in N.H., American martens (right), were one of our state's first threatened species. Biologists released some of these shy mammals in the 1970s to try to bring them back. Today, N.H. has an expanding population of marten in the North Country.



Karner Blue Butterfly

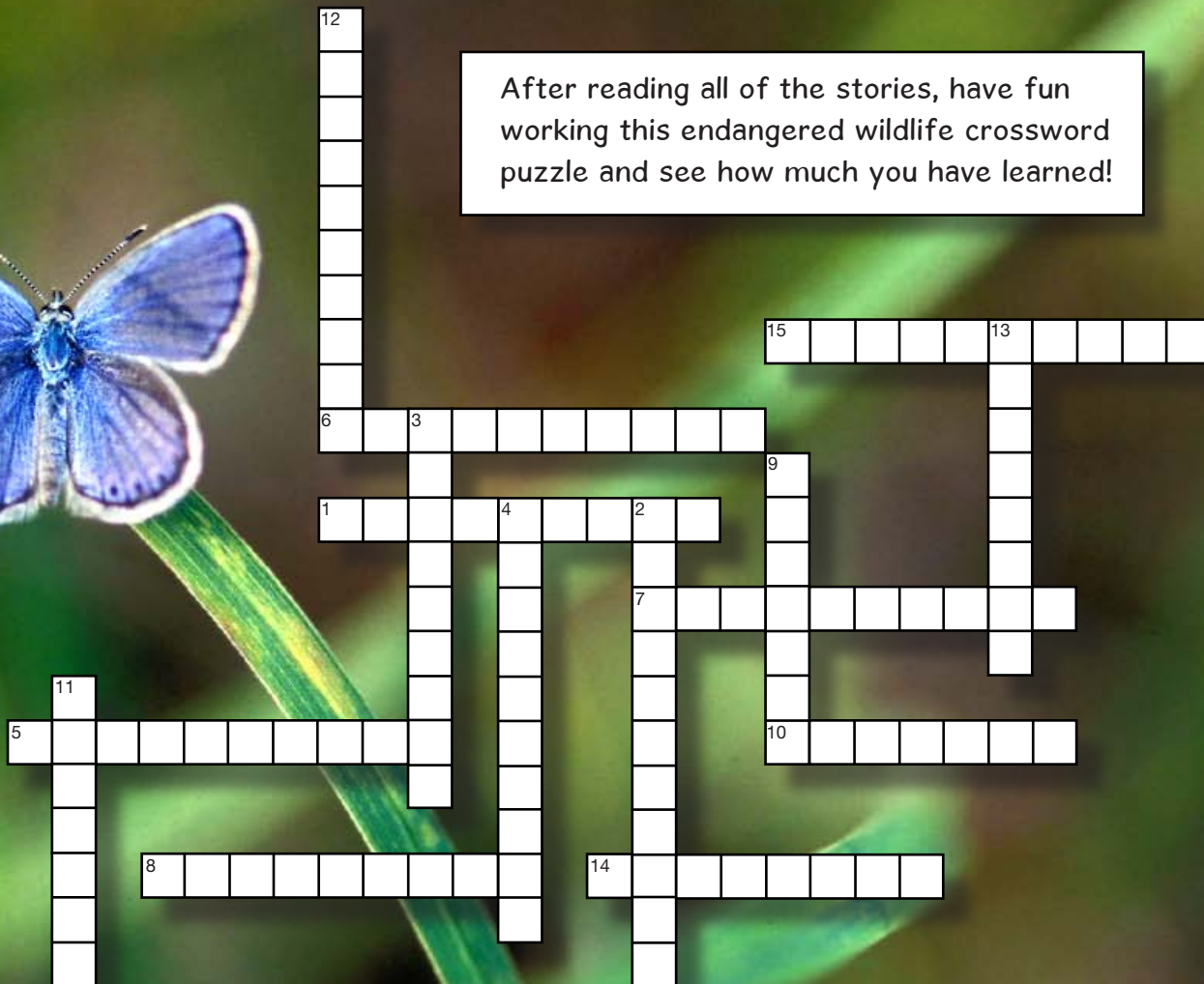
The **Karner blue butterfly** New Hampshire's official State Butterfly, once gone from the state, lives again in the wild thanks to intensive efforts led by Fish and Game in partnership with the US Fish and Wildlife Service, the NH Army National Guard and students in Concord schools.



To see a current list of threatened and endangered wildlife species in New Hampshire, visit wildnh.com/nongame.

CROSSWORD

After reading all of the stories, have fun working this endangered wildlife crossword puzzle and see how much you have learned!



Across:

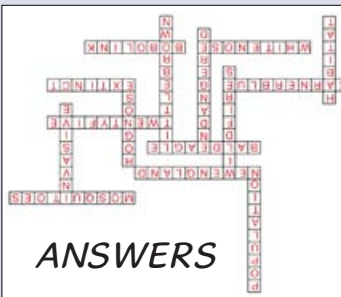
- This bird of prey was removed from the federal endangered species list in 2007.
- What federally endangered species is also the N.H. official state butterfly?
- The _____ cottontail rabbit is endangered in N.H. because of loss of habitat.
- How many years has New Hampshire's Nongame and Endangered Wildlife Program been protecting our wildlife? (Hint: spell out the number)
- This syndrome, or disease, is a fungus that is killing New Hampshire's bats.
- When a plant or animal population reaches zero, it is _____.
- This New Hampshire bird needs open fields to live in to survive.
- A single bat can eat as many as 1,500 of these insects in one night.

Down:

- This bat has almost disappeared from New Hampshire.
- Animal populations are affected when the landscape is changed by ice storms, hurricanes and _____.
- Animals or plants that are at risk of becoming extinct.
- This state endangered snake can imitate a cobra, but is harmless.
- An animal's home – where it finds food, water, shelter and space – is its _____.
- When this gets too low, a species may become endangered.
- A non-native species that disrupts another species' habitat.

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