North American Wildlife: On the Edge?

Eight-year-old Hunter Allen was fascinated by bats. One day he learned that bats had been found in the attic of a community center near his home. The people restoring the building wanted the bats to move out.

Hunter worried that the bats might be killed or have a hard time finding a place to live. But he had read in the National Wildlife Federation's magazine *Ranger Rick* that it is possible to make homes for bats. So Hunter wrote for instructions, got a few other Cub Scouts to help him, and asked a lumber company to donate some wood. They made "bat boxes" and, with the help of Hunter's mother, nailed five boxes on the side of the community center for the bats.[1]

Practical suggestions for helping animals, such as this one, are rare in our schools. The textbooks create an image of a world about to lose large numbers of species. They make the job of saving species or helping wild animals seem overwhelming and a task that only the government can handle.

Textbooks paint a grim picture of wildlife in North America.

- The geography text *Canada in a Changing World* states that "people have done much to reduce the list of species."[2]

- "In more recent times," claims *Science Probe 8*, "human activities alone have caused species to become extinct or disappear from an area. When people cause oil spills, drain wetlands, cut down forests, dam rivers, and build cities and highways, they also change habitats."[3]

- *Investigating Terrestrial Ecosystems* declares that "humans, through greed and carelessness, are driving many [species] to extinction."[4]

- "Hunting, trapping, and the destruction of habitat caused by human settlement and economic activity have resulted in the loss of hundreds of species," states Innovations in Science, a teaching resource package, in its section titled "Earth Team."[5] The books convey the impression that all hunting is bad, and that all development should be stopped.

Extinction: Mostly Out of Date in North America

Much of what our children learn is out of date. It is true that during the nineteenth century in North America, wildlife numbers declined. Some species, such as the passenger pigeon and the heath hen, disappeared entirely, and others, such as the grizzly bear, remain reduced in numbers. But the rebound of many species has been dramatic and largely unreported:

- The white pelican, considered threatened in 1978, was delisted by 1987 when 50,000 pairs could be found throughout Western Canada.[6]

- The population of pronghorn antelopes in the Rocky Mountains and the plains dropped from 30 million or 40 million to a mere 13,000 in 1930, but it has recovered to over one million today.[7]

- In sum, says Winston Harrington, writing for the research organization Resources for the Future, many game species are "more numerous today than 80 to 100 years ago"[8] and migratory birds such as the trumpeter swan, the whooping crane, and the peregrine falcon have made dramatic recoveries.[9]

A few animals, including the Vancouver Island marmot and the black-footed ferret, are still close to extinction. In most cases, however, the animals we hear so much about—the grizzly bear and the wolf, for example—are not in danger of extinction. Rather, populations are endangered in certain places.

Depletion and Restoration

The history of wildlife in North America is a lot like the history of its forests. It is a story of abundance followed by depletion, and depletion followed by restoration.

The texts recognize that loss of habitat and over-hunting led to the decline and extinction of animals in the 1800s. But they ignore the more fundamental reason: the absence of incentives to maintain wildlife populations. Early on, supplies of wild game seemed virtually inexhaustible, and no one thought it was important to restrict access to wildlife through laws or regulations.

In fact, Canada was largely built upon the fur trade. In the early days, fish and fur-bearing animals drew explorers and colonizers to Canada. The *coureurs de bois* and *voyageurs* paved the way for the settlers and industries that followed. The country was viewed as a limitless pool of resources that could be harvested at will.

Game animals provided early settlers with provisions vital for surviving through the harsh conditions. Unlike livestock, game animals were not fenced in and may have migrated over large territories. Property rights existed only for dead animals. Thus, settlers and hunters had no incentive—or ability—to conserve live animals. If they did, someone else could kill any animals they left. Thus, hunters had an incentive to kill as much game as possible.

As the population moved westward across the continent, settlers cleared the forests for farms, and the habitat for wildlife changed dramatically. Animals that require large areas in which to roam had a more difficult time. Grizzly bear territories extend for 30 miles, for example, and salmon use entire rivers. Settlers also hunted and trapped animals, and commercial hunters killed game to sell as food. Over time, this hunting reduced the numbers of many animal species, including the beaver, bison, passenger pigeon, wood duck, heath hen, and others. The common pool of wildlife became seriously depleted. Wildlife experienced the "tragedy of the commons" (see Chapter 5).

Only a few animal species actually became extinct. Charles Mann and Mark Plummer say that five birds disappeared from North America as a result of commercial hunting and forest clearing east of the Mississippi and around the Great Lakes. They were: the ivory-billed woodpecker, the passenger pigeon, the Carolina parakeet, the heath hen, and the Bachman's warbler.[10] Still, many populations were severely reduced in numbers. The stories of the passenger pigeon and the bison are particularly striking.

Passenger Pigeon

The passenger pigeon was so common throughout North America in the early 1800s that no one thought it could ever die out. In 1810, naturalist Alexander Wilson saw a flock in Kentucky that he claimed contained more than 2 billion birds. (He estimated the flock to be a mile [1.6 km] wide and 240 miles [386.24 km] long.)[11] The flocks darkened the sky as they passed over.

Since the birds required so much food and space, the advance of settlements and industrial expansion undoubtedly affected their numbers by reducing their habitat. But commercial hunting was a big factor, too. Hunters shot pigeons and shipped them east for sale, much as farmers ship chickens around the country today. During a forty-day period in 1869 three rail cars full of pigeons were shipped

The Spotted Owl: How Threatened?

Many people assume that the spotted owl is headed for extinction unless we make heroic efforts to protect it. But this is unlikely.

For one thing, the northern spotted owl—the subject of controversy in British Columbia and the Pacific Northwest—is a subspecies. The forests of southern B.C. are the northernmost extent of the subspecies' natural range, and its only habitat in Canada. There are two other spotted owl subspecies, the California, and the Mexican.

Second, the northern spotted owl may be more adaptable than we think. The northern spotted owl (like its relatives) nests in the cavities of old trees. People fear that if old trees are cut down, there may not be enough places for the owl to nest. But Lowell Diller, a zoologist for the Simpson Timber Co., has found high densities of spotted owls in redwood forests owned by Simpson, even though less than 2 percent of these forests are old-growth.[1]

For some people, what is really important is not the owl, but old-growth trees. In a now-famous statement, Andy Stahl of the Sierra Club Legal Defense Fund said in 1988: "Thank goodness the spotted owl evolved in the Pacific Northwest, for if it hadn't, we'd have to genetically engineer it."[2] Stahl was joking, but his comment reveals that the spotted owl is a tool for protecting old-growth forest.

The campaign to "save" the northern spotted owl has led to economic hardship for workers in the timber-based industries of British Columbia. People are having to travel farther abroad to find employment. Roslyn Kunin wrote in *The Province* that "the Chileans have an expression: 'Viva St. Spotted Owl.'" As fewer trees are logged in North American forests, markets have opened for Chilean forest products. And, says Kunin, "skilled B.C. workers are now heading south."[3]

to market daily from Hartford, Michigan. Nearly 12 million birds were shipped during that time. And over a two-year period nearly 16 million birds were shipped from another Michigan town.[12]

By 1890, the bird was rare. The last Canadian sighting was in Penetanguishene, Ontario in 1902.[13] The last passenger pigeon died at the Cincinnati Zoo in 1914.[14]

And this may be just the beginning. Already, the B.C. government is committed to preserving twelve per cent of the province in parks, reserves, and other non-commercial settings by the year 2000.

The Canadian Spotted Owl Recovery Team has released a report of regulatory recommendations to ensure the survival of the species. These range from doing nothing to preserving every hectare of spotted owl territory for the exclusive use of the owl and other indigenous species.[4] Perhaps a middle ground will be found.

Robert J. Smith, an environmental writer, has another idea. Instead of penalizing landowners for having spotted owls on their property, governments could pay people who prove that they have spotted owls on their land. "Such a program would be infinitely cheaper than taking billions of dollars of timber and private property, eliminating hundreds of thousands of jobs, and forcing huge numbers of people onto unemployment and retraining rosters," he writes.[5]

Notes

(1) Donald R. Leal, "Unlocking the Logjam Over Jobs and Endangered Animals," *San Diego Union-Tribune*, April 18, 1993, G4.
(2) Quoted in Randy Fitzgerald, "The Great Spotted Owl War," *Reader's Digest*, November 1992, 92.
(3) Roslyn Kunin, "Global jobs abound for those who have trade," *The Province*, March 19, 1996, A27.
(4) Dave Dunbar and Ian Blackburn, *Management Options for the Northern Spotted Owl in British Columbia* (Surrey: BC Environment, July 31, 1994) xii–xiii.
(5) Robert J. Smith, "The Endangered Species Act: Saving Species or Stopping Growth?" *Regulation*, Winter 1992, 87.

Bison (or Buffalo)

Great herds of bison (also known as the American buffalo) roamed the prairies during the early nineteenth century. In 1800, the plains bison were estimated to have numbered over 50 million.[15] Like the passenger pigeon, they were a common pool of animals that anyone could kill. With no one to protect them, they almost disappeared.

When bison became extremely rare late in the nineteenth century, the Canadian government stepped in. They were declared protected in 1893, and have been actively managed since the 1920s.[16] A herd of prairie bison was established in Wainwright, Alberta, by importing a herd from the United States, where the American Bison Society had been formed in 1905.

Wood Buffalo National Park, Canada's largest national park, was established in 1922 to protect the wood bison subspecies. In 1925, a transfer of prairie bison from Wainwright to the park in 1925 led to interbreeding and great population gains, but the rarer wood bison was almost lost as an independent species. Fortunately, in 1957, a pure herd was found in the park and isolated. It was transported to Elk Island National Park, where today it thrives.[17]

There are many thousands of bison in North America today, on both public and private lands. While national parks such as Wood Buffalo and Yellowstone protect bison herds, one reason the bison numbers are growing is that people want to eat bison meat, which is leaner than beef. Because the herds are owned, markets lead to their growth in numbers, not their destruction.

Alarm at the Turn of the Century

During the late 1800s, many people became alarmed at the disappearance of wildlife. Bison were rescued, as we have seen. The National Audubon Society was formed in the United States to protect birds, especially egrets, whose plumes often decorated women's fancy

hats. The Audubon movement advocated legislation to protect birds and conducted campaigns to educate the public, trying to arouse moral indignation against the plume trade. Audubon also created a system of private wardens who protected wildlife in key areas and it established a network of private wildlife refuges.[18]

In response to the changing public mood, provincial and federal governments also took action. Prime Minister Sir Wilfred Laurier and Sir Clifford Sifton worked in co-operation with President Theodore Roosevelt to protect North American wildlife through international wildlife treaties and other policies.

Today, fees for hunting licenses support most provincial and state fish and game departments. Federal excise taxes on hunting guns and ammunition and fees for duck licenses have been used to acquire millions of hectares of federal wildlife refuge lands.

Friend or Foe?

Many Canadians are encouraging Ottawa to adopt legislation similar to the United States Endangered Species Act (ESA), which they perceive to be an effective way to protect endangered species. While some children's texts in the United States point out that the act has aroused controversy, the texts consider it at least a step in the right direction.

- The act "embodies an encouraging attitude toward nature that has now become public policy," says one American text.[19]

- The "power and controversy" of the act is illustrated by the story of the Tellico Dam, says another. (In 1978, discovery of the snail darter, a small fish that appeared to be endangered, halted construction of a dam in Tennessee. Congress passed a law allowing the dam to be built, anyway.)

- "The Fish and Wildlife Service has found that the most effective way to save most species is to protect their habitats,"[20] says another. Protecting endangered species "may mean restricting human use of some areas," it continues.[21]

Some textbooks recognize that the U.S. Endangered Species Act has been controversial, since it has prevented government agencies and private individuals from activities such as building and farming in certain areas.

What the books don't say is that the act may be harming the species it seeks to protect. Suppose a homeowner discovers a painting by Rembrandt in his attic. Most people would be thrilled to find such a treasure and would protect it. But suppose the owner was required to convert his home into a museum and display the painting for the benefit of the public, paying all the costs. Most of us would consider this unfair. And the homeowner might be tempted to burn the painting before anyone found out about it.[22]

Now consider what happens if a landowner finds an endangered species on his or her property—something the owner might view as valuable, like an Old Master painting. The landowner will have to protect the species—following strict rules of the U.S. Fish and Wildlife Service—without compensation.

These restrictions could lead some people to destroy such an animal before anyone finds out about it. (This practice has been described as "shoot, shovel, and shut up.") Or perhaps the landowner would do something to the land to make it unattractive for the species. While such action is deplorable, we should at least understand it. It helps explain why the U.S. Endangered Species Act has not been very successful in accomplishing its objectives.

Only 27 species, out of about 1,400 American species listed, had been delisted by early 1995. Of these, only eight could be described as "success stories." (Some of the delistings were for errors in the original listing).[23] At best, the act has led to a greater awareness of endangered

species and has helped a few high-profile species, such as the whooping crane, but this kind of record cannot be called a rousing success.

Who Is Saving Species?

There is always hope that endangered species will recover. Some species have rebounded dramatically through public and private conservation efforts. Your children may not know about the following:

Peregrine Falcons

The peregrine falcon was close to extinction in the 1970s when the Canadian Wildlife Service developed breeding techniques at a facility in Alberta. There was some debate as to whether captive breeding, which involved human intervention, was necessary to restore falcons, but they persisted. Two university-affiliated breeding centres joined the effort, and from 1976 through 1988 over 800 young peregrines were released across eastern Canada.[24]

Through these efforts—and, most scientists believe, through the elimination of the use of DDT in North America—the peregrine has rebounded. Peregrines can be found nesting on skyscrapers and under major bridges.[25] The bird has been taken off the endangered species list and is now listed only as "threatened."

Bluebirds

Bluebirds nest in holes in old trees and fence posts. Bluebird numbers were declining in the 1970s because older trees had been cut down and because sparrows and starlings were competing for the spaces. In recent years, members of the North American Bluebird Society have put up thousands of bluebird nest boxes, and bluebird populations are recovering.[26] In 1996, the eastern bluebird was moved from the "vulnerable" to the "not at risk" category by the Committee on the Status of Endangered Wildlife in Canada.[27]

Ducks

Many organizations, some of them supported by hunters, protect and restore habitat for ducks. Although taxes paid by hunters enable state and federal conservation agencies to acquire duck habitat, private organizations are a significant force in habitat protection:

- Since 1937, Ducks Unlimited has preserved or restored 2.5 million hectares (6 million acres) of wetlands in Canada and the United States. This organization, which has 550,000 members, works with private landowners to develop duck nesting areas and preserve wetlands.[28]

- The Delta Waterfowl Foundation (headquartered in Deerfield, Illinois) protects ducks with its "Adopt a Pothole" program. It pays farmers in central Canada and the United States to maintain the shallow depressions or "potholes" in farmland that provide nesting places for waterfowl.[29]

- The Delta Wildlife Foundation (headquartered in Stoneville, Mississippi) works with farmers to maintain wetland areas. It sponsors and places boxes for wood ducks and helps restock Canada geese. It encourages other environmental actions, too, from planting food plots for deer to building and distributing bluebird nesting boxes.

Deer and Elk

In response to growing concern about the safety of wildlife, Banff National Park, encompassing 6640 square kilometres in Alberta, has built large underpasses which permit large animals such as deer and elk to cross the Trans-Canada Highway without danger. Both humans and wildlife benefit from this arrangement in Canada's most popular national park: the animals can avoid the traffic, and the traffic is no longer disrupted by crossing wildlife.[30]

Canada Geese

By the 1920s, the Canada goose had been hunted to near extinction in this country. In 1968, Ontario's Ministry of Natural Resources decided to try to save the bird while introducing wildlife to the urban areas of Lakes Ontario and Erie. No one anticipated how well the geese would adapt to their new environment. The two dozen geese reintroduced to the area thirty years ago have grown into a population of 300,000 today. In fact, governments in urban areas across Canada and the United States are now battling the problem of overpopulation of Canada geese. They have been donated to food banks, transported to rural areas, and promoted as desirable targets to hunters.[31]

Talking to Your Children

The state of wildlife in North America is much better than the textbooks imply. Despite the growth of cities and towns, an enormous amount of land has been converted from farmland to wildlife habitat, as we discussed in Chapter 8, and many people are devoting their lives to protecting wildlife. The outlook for wildlife preservation in Canada is more promising than our children are led to believe.

Now you are ready to answer some questions that your children may ask.

- Are we losing species in Canada?

  Yes, we have lost some and we may lose a few more. Some species, such as the Vancouver Island marmot, may not be able to recover, despite enormous effort. However, many animals *are* recovering. Others, such as wolves and grizzly bears, are endangered in some areas but doing well in others.

- Why did the passenger pigeon become extinct?

The passenger pigeon was once so abundant that no one thought protecting it was necessary. But much of the pigeon's forest habitat was cleared, and because the pigeon was part of the common pool of wildlife, the "tragedy of the commons" contributed to its demise. Anyone who held back from killing it for food could not preserve it for the future because someone else could kill it. With no owners to protect the pigeons, hunters killed them in great numbers. In addition, its habitat shrank as settlers turned wild land to farmland.

- Does Canada need an endangered species act?

  No. At best, the U.S. Endangered Species Act has saved only a few species, although it has probably saved some populations. One reason for its poor record is that it penalizes people who find endangered species on their property. These penalties may make people try to keep such species away. Thus, the Act sometimes makes an enemy of the species it is designed to help. Canadians can take pride in not having passed similarly harmful legislation.

Activities for Parents and Children

Fortunately, there is plenty of good news. Many wild animals are increasing in number, and many people are helping restore wildlife populations. The following activities will give your children a more optimistic outlook.

Watching Wild Birds

Even small towns now often have a store that specializes in wild birds. You can buy bird feeders and seed there. The store personnel will tell you what kinds of seeds attract local birds and where the

feeder should be placed to attract birds. Let your children know that millions of people feed birds each year. This is one way in which people voluntarily help protect birds.

If your children become interested in birds, they may want to buy or build nest boxes. For instructions on building bluebird boxes, they can contact the North American Bluebird Society, P.O. Box 6295, Silver Spring, MD 20916-6295. For information about purple martins, they can contact the Purple Martin Conservation Association, Edinboro University of Pennsylvania, Edinboro, PA 16444. For general information about bird-watching, they can subscribe to the magazine, *Birds of the Wild*, (5694, 4 Highway #7E, Suite 199, Markham, ON, Canada, L3P 1B4). Introducing your children to birds may start them on a lifelong hobby.

Hunting and Fishing

Millions of people love to hunt and fish. Since hunters and anglers want to make sure that wild game and fish have a place to live and breed their young, they support organizations, both public and private, that protect habitat necessary to wildlife. Ducks Unlimited and Trout Unlimited often have local chapters that could send a representative to speak to your children's school. You may wish to contact their national headquarters by writing to: Ducks Unlimited Canada, Box 1160 Stonewall, Oak Hammock Marsh, MB R0C 2Z0, or Trout Unlimited Canada, P.O. Box 6270, Station D, Calgary, AB T2P 2C8.

One Glass, Two Straws

Your children might like to do this exercise, but you may prefer simply to describe it to them. They will quickly get the idea. Imagine two very thirsty children, each with a straw in a single glass of soft drink. How long will it take them to finish the glass? Not very long. If one slows down, the other one will get most of the soft drink. This is an illustration of the "tragedy of the commons." When you are taking

something that you want from a common pool, you are likely to take it as fast as you can. If you don't, someone else probably will!

Now suppose that each child has a separate glass, each half-filled with soft drink. In this case, the children are not under pressure to drink so fast. One child might wait a while before drinking it, perhaps putting it in the refrigerator for later. As long as the child is assured that he or she has a right to that half-glass, he or she won't feel pressured to drink it now. In effect, each child "owns" the soft drink in the glass. Each child now has private property.

You might put a number of soft drink cans in the refrigerator (six cans for each child) and see how fast this "common property" disappears. Later, put in a six-pack for each child, with each six-pack marked with the child's name. Now, the soft drinks will probably disappear more slowly. The children will feel secure that their "property" will be there when they want it.

Notes

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