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Extinction is Forever

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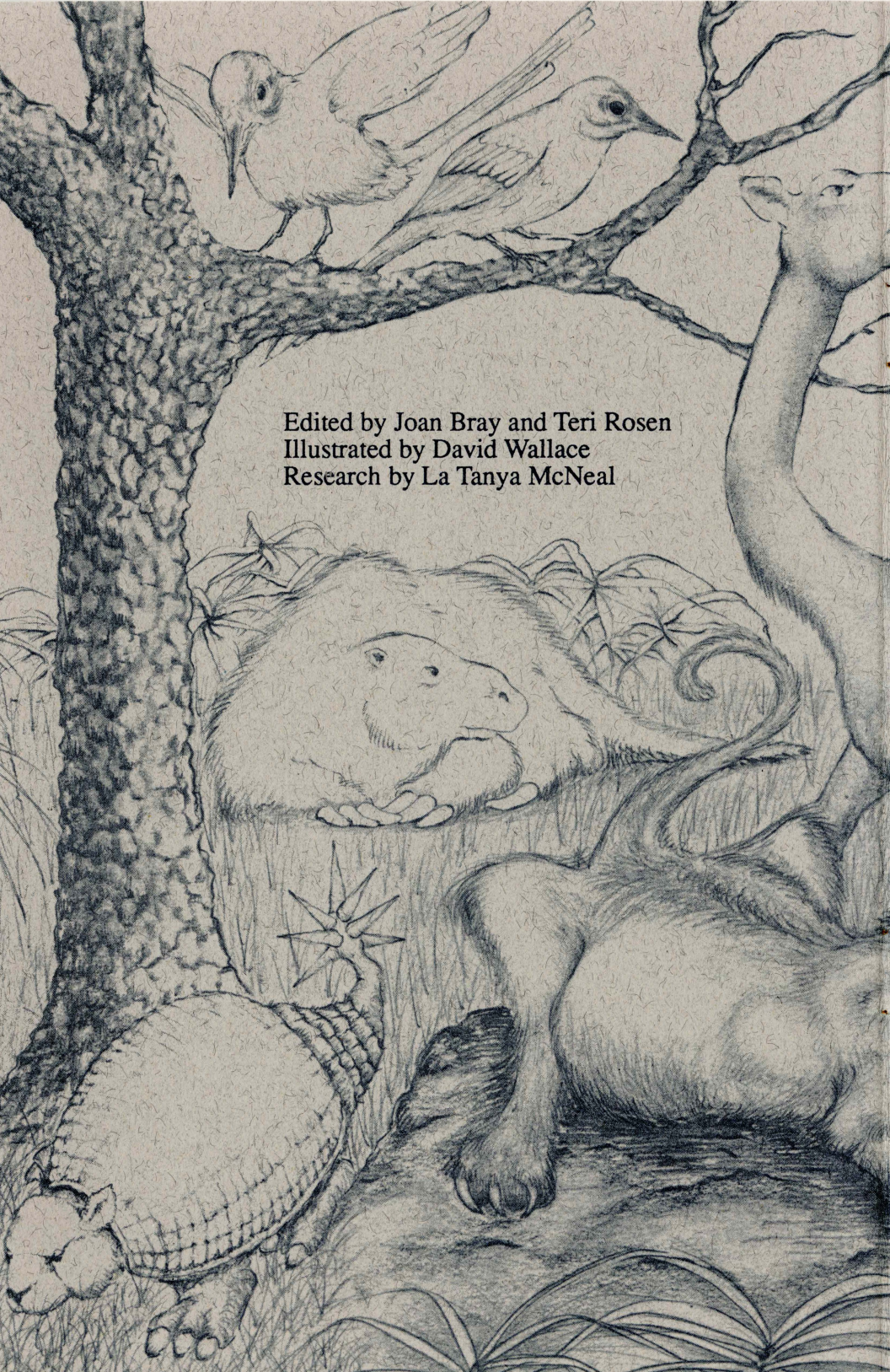
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By Robert Loftin, Ph.D.





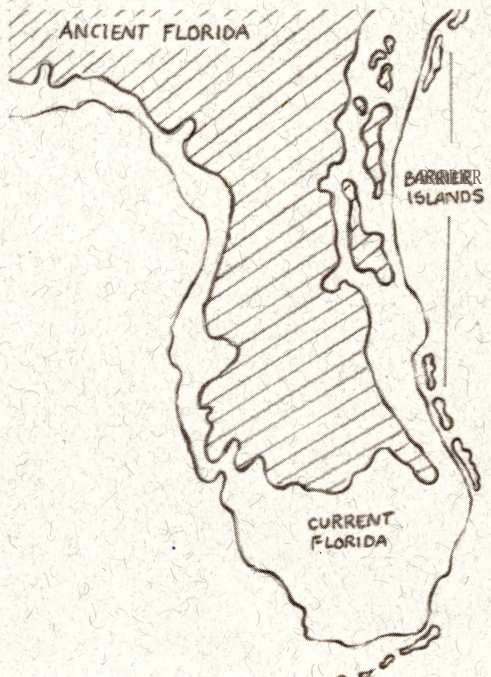
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EXTINCTION IS FOREVER

THE ICE AGES

During the past million years, much of North America has been covered with ice at least four times. An ice cap up to two miles thick at times covered land as far south as New York City, but the great glaciers never reached as far south as Florida. Because much of the world's water was in the form of ice during the ice ages, sea level was much lower than it is today. Vast areas that are now beneath the oceans were then fertile plains and forests, and the Florida peninsula was larger than it is now. Then as now, this land was the home of many animals, some very different from animals that live in Florida today.

Imagine Florida as it must have been during an ice age. The sea level was low and Florida was a nearly flat plain that stretched for hundreds of miles. It probably looked like the great plains of the American West of today.

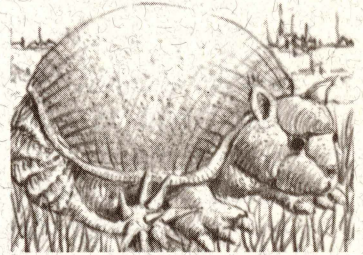


Bison roamed that ancient plain, some of them much larger than bison that survive in America now. Wherever bison roam, wolves follow to prey on the weak and diseased. The giant bison of ancient Florida were followed by wolves called Dire Wolves. They were larger and probably fiercer than any wolves living today. Sabre-toothed cats wandered the plains or lurked in the shadows of the nearby forests. These large cats waited to ambush their prey and bring it down with the help of their long fangs. At least three different kinds of wild camels lived on the Florida plains. And wild horses browsed in ancient Florida long before the Spanish brought their horses to the New World.



If we could go back to the ice ages, we might recognize animals such as horses, bison and wolves, but some of the others would not be familiar to us.

Six kinds of ground sloths existed that were unlike anything that lives today. Glyptodonts, animals that looked something like giant armadillos, and other armadillos much larger than the nine-banded type living in Florida today, also lived during the ice ages. We know



mammoths and mastodons (which looked a little like elephants) must have been very common because of the large number of bone fossils they left behind. Giant vultures and condors fed on the bodies of dead animals.

Between the ice ages were periods when the climate was warm. The great glaciers melted, and water ran down into the sea. Rising oceans covered much of the land, including most of Florida. At times when the sea level was highest, all that remained of Florida was a few islands. During these warm periods many animals had to move to higher ground or die. Some animals died out completely, that is, they became extinct.

When world climate changed again and a new ice age began, glaciers reformed, the sea level dropped, and the land emerged once more. At those times, animals returned to Florida. Some of them were the same species that had been here before the land was flooded. But some of the animals were never seen again anywhere on earth. They had become extinct, and extinction is forever.

Today in Florida, several isolated populations of animals have close relatives living far to the west. For example, the Scrub Jay is common in western United States, but in the eastern United States it is found only in Florida.

Scrub Jays prefer to live in dry scrub habitat with no large trees. Some areas of Florida look like the western scrub. Perhaps in the past, scrub habitat stretched across the southern part of North America from Florida to California. When the climate changed, the habitat changed. Trees grew up in the middle part of the area – in Alabama, Mississippi, and Louisiana – and the Scrub Jay died out. In that part of the range that stayed suitable to them, the jays continued to do well.



Scrub areas are hot and dry and not very fertile. But humans have the power to change scrub habitat into something more valuable for other humans, such as orange groves and housing. Natural scrub is dry, but humans tap water supplies from deep wells to grow orange trees. Fires are common in natural scrub areas and fire destroys trees. Humans control fires to let trees grow. Natural scrub isn't very fertile, but humans bring in fertilizers. Natural scrub is hot, but humans have air conditioners to keep their houses cool. As a result, scrub is one of the most endangered kinds of habitat in Florida, and the Scrub Jays are also endangered.

If an animal disappears completely, we say it is extinct. If it disappears from a part of its range but still exists somewhere else, we say it is extirpated. If the Scrub Jay disappears from Florida, it would be extirpated, because others could still be found in the western United States.



EXTIRPATED ANIMALS

Bison are among the animals that lived in Florida in historic times. Many people think of bison as living on the western plains of North America, but smaller herds of bison roamed in Florida and throughout the eastern United States and Canada. In those days, Florida looked quite different from the way it does now. Intense fires swept through the

pine woods from time to time and kept the woods free of the dense undergrowth that is common today. In 1513, when Ponce de Leon first visited Florida, the land was open. Naturally caused fires burned the palmettos and bushes, leaving grass to flourish. Although grass burns, it quickly renews itself. The large open grasslands were good areas for bison.

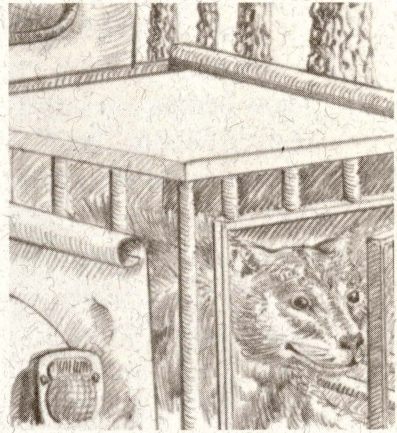
In colonial times many millions of bison lived in North America. But by 1889, so many had been killed that only 541 were left in the United States and 250 in Canada. Bison were extirpated from Florida. New laws that protect bison have recently helped them return from the edge of extinction. Bison now live in several game preserves in Florida.

The Red Wolf is smaller than the Gray Wolf, its better known relative. The Red Wolf was discovered in Florida by the pioneering naturalist, William Bartram, who traveled through Florida in 1775 and 1776. In 1875, the last Red Wolf in the Gulf Hammock area of Levy County, Florida, was killed. The last one in the state was probably killed in



Osceola County in 1922. By 1975, only a few Red Wolves existed anywhere, mostly along the coasts of Louisiana and Texas. So few of them existed that they could not find mates. They were breeding with dogs and coyotes. The Red Wolves were dying out.

Wildlife biologists came to the rescue. They captured nineteen Red Wolves and began an effort to breed them in captivity. By 1985 eighty Red Wolves were kept in zoos around the country. In 1986, biologists released eight wolves into the Alligator River National Wildlife Refuge in North Carolina. The refuge contains 118,000 acres of coastal marsh and forest. Here the wolves will not have to compete with humans, and there are no coyotes to breed with them. If the Red Wolves survive, it may be possible to put them back into the wild in other areas, maybe even in Florida.

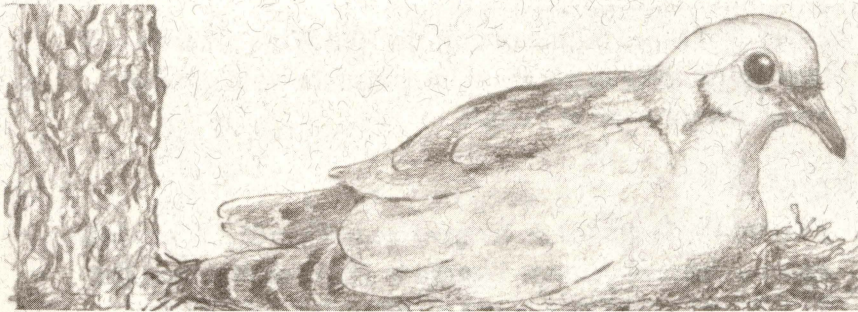


Two tropical pigeons no longer live in Florida. When John James Audubon came to Florida in 1832, he observed the Key West Quail-Dove near Key West and the Zenaida Dove on nearby keys. The Key West Quail-Dove is a large pigeon with an iridescent reddish-brown back, a white breast and a prominent white stripe on the head. It still

exists in Cuba, in the Bahamas, and on other large islands in the Caribbean. By 1870 it was extirpated from Florida. The Zenaida Dove is smaller and can still be found in the Caribbean region and in Mexico. These interesting tropical pigeons never lived on mainland Florida, but only on the Keys. Most of the forest that once covered the Florida Keys is gone, so the Key West Quail-Dove and the Zenaida Dove are not likely to return to Florida.

EXTINCT ANIMALS

Many people are surprised to learn that there were once seals in Florida, but Columbus saw them on his second voyage to the New World in 1494. The West Indian Monk Seal once ranged throughout the Gulf of Mexico and the Caribbean Sea, especially in the Bahamas. It moved in large groups and was easy to spot and kill. The last reported seal in Florida was killed March 15, 1922, near Key West. Seals were known to live near Jamaica as late as 1952, but are now believed to be extinct.

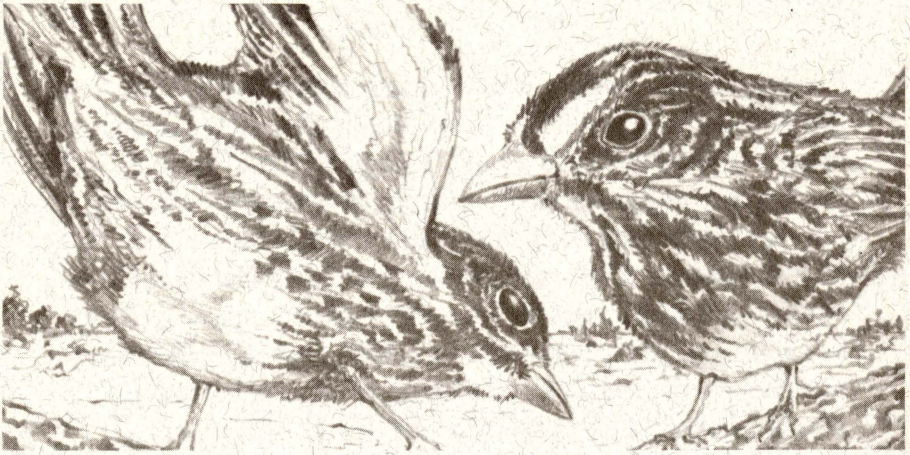


Passenger Pigeons were perhaps more plentiful than any other bird to exist anywhere in the world. Today they are extinct.

Passenger Pigeons nested in the north central part of the North American continent. They migrated to Florida in the winter. The birds could almost always be found in large flocks. This may be one reason they became extinct, because large flocks were easy for hunters to locate and kill. Biologists believe that Passenger Pigeons may not have been able to reproduce easily unless they remained in large groups. Possibly one bird had to see many others courting, building a nest, or feeding the young before it would be stimulated to do the same thing. Large flocks were seen in Florida as late as 1907, but by 1914 the last Passenger Pigeon had died in a zoo.



The Carolina Parakeet once lived in Florida. This bird was the only member of the parrot family native to North America. When the French tried to settle at Fort Caroline on the St. Johns River in 1562, the Carolina Parakeet was common. By the 1920's they were gone and no one seems to know where or when the last one died.



The animal that most recently perished from Florida is the Dusky Seaside Sparrow. This bird was found in the marshes around Cape Canaveral. The space program brought large numbers of people to the area, changing the natural habitat. Some of the surrounding marshes were drained and filled; others were flooded so fish might control the numbers of mosquitoes. As the marshes were changed, the sparrows disappeared. In an effort to save the birds, biologists captured the last wild birds in 1979 and 1980. But all the birds caught were males. Efforts to cross-breed the Dusky Seaside Sparrows with other kinds of Seaside sparrow failed. Today the Dusky Seaside Sparrow is extinct.

ENDANGERED SPECIES

Many animals in Florida today are in danger of extinction or extirpation. One of the most interesting is the West Indian Manatee. The West Indian Manatee, or sea cow,

lives in fresh water but sometimes travels through salt water to get from one freshwater river to another. These gentle animals eat plants and grow to be very large. Some of the largest weigh 1500 pounds. Manatees are also found in the Caribbean regions and in South America. They move around quite a bit and seem to travel in groups. They don't like cold water, so their favorite spots are places where warm water comes out of natural sources such as springs or from man-made sources such as power plants.

The leading causes of death among Manatees are related to human activity. Manatees are victims of injuries from boat propellers, collisions with barges, and suffocation from getting caught in the locks and gates of canals and dams. The cow, or female manatee, usually has only one calf at



a time, which stays with the mother for about two years. At present, manatees seem to be dying faster than they are being born. If this trend continues, the population will decline until manatees are extinct.

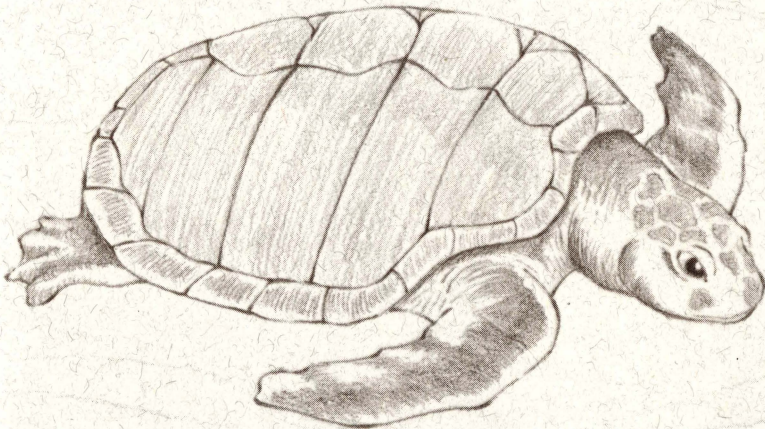
The Florida Panther is probably the rarest mammal in Florida and is very close to extinction. As few as 20 panthers may still be alive in the state, most of them in extreme southern Florida. Most panthers range rather widely and have to cross highways at one time or another in their wanderings. Unfortunately, many are killed by highway vehicles.



The Florida Panther is a subspecies of the mountain lion that lives in western United States and Canada. Panthers are shy and pose no real danger to humans. These cats prey on deer, wild hogs and other mammals. Early settlers in

Florida considered them a menace to livestock and were afraid of them. In the 1880's, large bounties were paid to kill panthers. In the 1930's, Florida ranchers killed many deer to try to destroy fever ticks carried by the deer, and many panthers were killed at the same time. Even though the panther was becoming increasingly rare, hunting panthers was still legal until 1959.

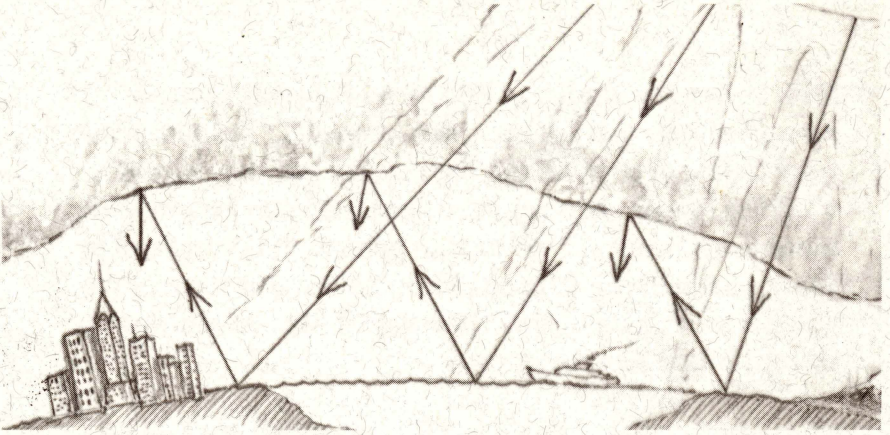
One of the most endangered animals in Florida is the sea turtle. Sea turtles come ashore to lay their eggs on beaches above the high tide mark. Most of those that nest in Florida are Loggerhead Turtles, but the Green Sea Turtle also nests here. Because humans use Florida's beaches so much, sea turtles have a hard time finding places for their nests. Humans and turtles are competing for the same territory, and humans seem to be winning. Some of the rarest of all sea turtles, such as the Kemp's Ridley Turtle, do not come ashore to nest in Florida but range off the coast. These turtles are often caught in shrimp nets and drowned.



HUMANS AS AN ENDANGERED SPECIES

Many changes in the natural world have taken place in the past million years. Sabre-toothed cats and Dire Wolves no longer exist anywhere in the world, and they will never live again. In recent years, other animals have joined them in the march to extinction. Much of this is due to natural changes in the world's climate and to changes brought about by humans. Many scientists now fear that further changes in the climate of the world will soon take place and that humans will be the cause.





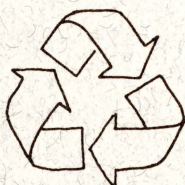
We know that the amount of carbon dioxide in the earth's atmosphere is increasing. Every time something is burned, carbon dioxide is produced. In the last 200 years, huge deposits of coal and oil that had been locked up in the earth have been mined and burned, sending enormous amounts of carbon dioxide into the air. At the same time, the vast forests of North America and the Amazon region of South America have been destroyed. Since plants remove carbon dioxide from the air, destroying the forests adds to the problem of increased carbon dioxide.

Carbon dioxide in the atmosphere leads to what scientists call the "greenhouse effect." When sunlight strikes the earth, it is changed into heat energy. Carbon dioxide lets light in but does not let heat out. As the amount of carbon dioxide increases, the temperature of the earth will increase. If the earth does become warmer, polar ice caps will melt more rapidly and the sea level will rise. The change will be gradual, so humans would likely have time to adapt. But habitat changes may have lasting effects on wildlife.

With a warming climate, world weather patterns would change in ways that are very hard to predict. In some areas, more food will be produced because the growing season would be longer. In other areas, less food may be available because of changes in the rainfall pattern. It is very hard to know what the long term effects could be. But some of the changes are certain to affect our way of life. At the worst, humans might become extinct.

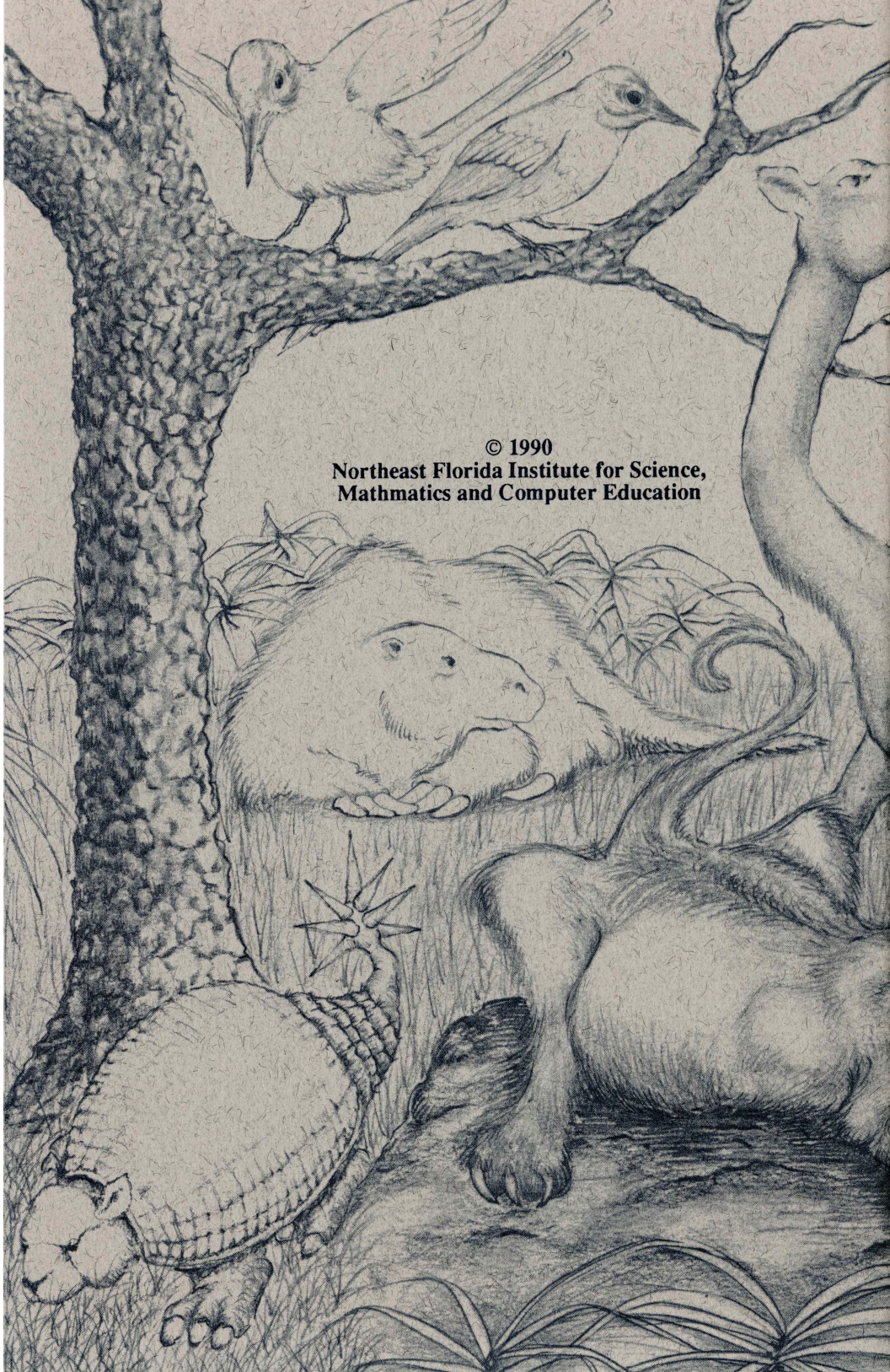
The earth has seen many changes in the past and more are likely in the future. Animals that have not been able to adapt have become extinct. Whether humans can use natural resources wisely and cope with such great change remains to be seen.

THE END



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