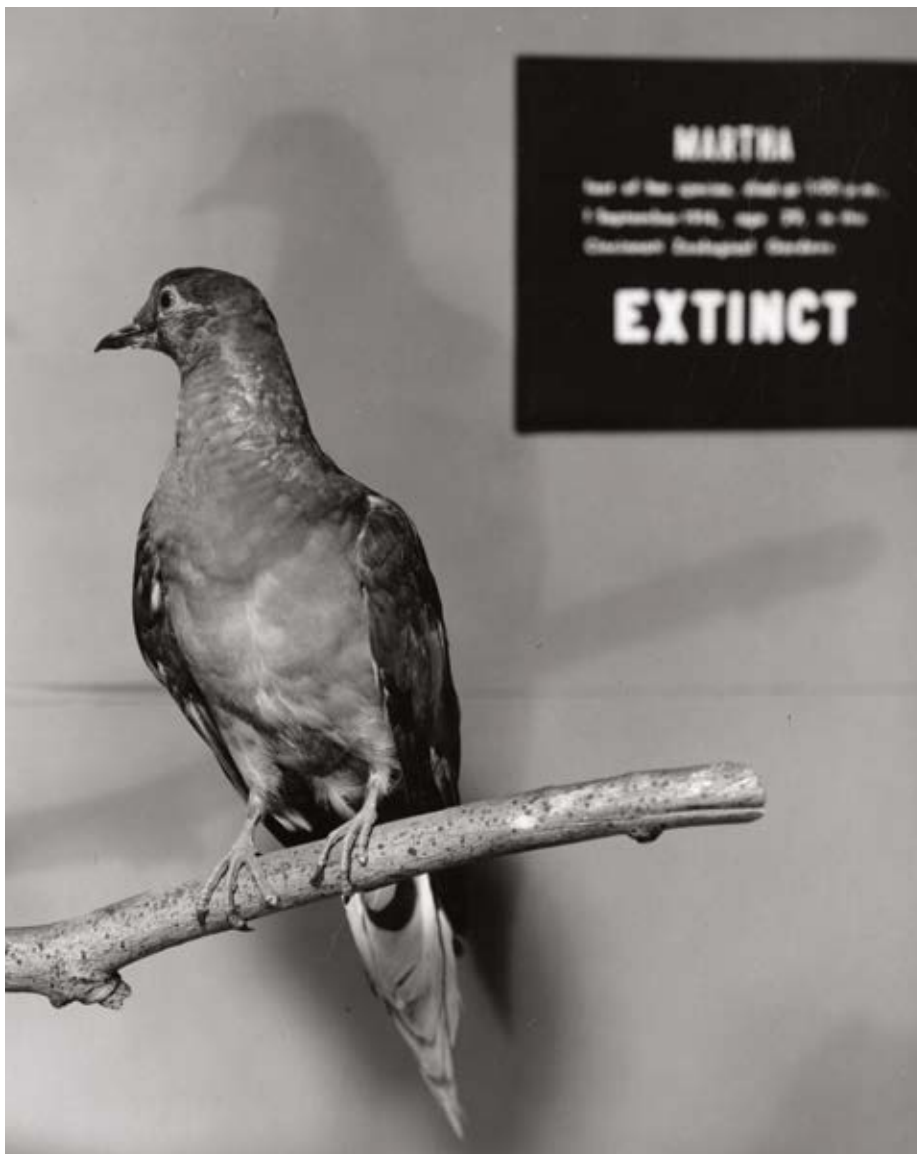


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B&C REGULAR MEMBER
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Martha is Dead



Just over 100 years ago, on September 1, 1914, the elderly lady known as Martha breathed her last. She was living in Cincinnati at the time, but no one knew her birth year or her travels prior to arriving there. She was thought to have moved from Chicago a dozen years earlier. George, her last companion, had passed on four years before, and Martha spent those final years alone. She and George have been named after the nation's first family.

Passenger pigeon Martha (named after Martha Washington), the last survivor of an American species that numbered in the millions prior to the 1880s, died in the Cincinnati Zoo in 1914. Her body was donated to the Smithsonian Institution and brought to the United States National Museum, now the National Museum of Natural History, for permanent preservation. Mounted in a display case with this notation: "MARTHA, last of her species, died at 1 p.m., 1 September 1914, age 29, in the Cincinnati Zoological Garden. EXTINCT", this bird documents an unhappy chapter in the conservation of wildlife.

Martha, as it turns out, never experienced freedom. She was thought to have been born either in Chicago or perhaps Milwaukee, and had lived her whole life fenced in. During her last years, despite obvious physical deterioration, she had become well known and popular, and visitors made special efforts to meet her. Her death received national recognition.

It wasn't always that way. Martha was tragically the last living member of a species whose prodigious numbers blackened North American skies only a few decades earlier. Martha was a passenger pigeon that had been bred in captivity and for the past dozen years had resided in a 12-foot cage at the Cincinnati Zoological Gardens. She had no funeral; rather, she was unceremoniously packed in a large block of ice and shipped to the Smithsonian Institution for necropsy and mounting.

NUMBERS

The passenger pigeon population estimates in the mid-19th century were enormous. Some thought they comprised as much as 40 percent of all North American

birds. Estimates range well into the billions, but because no accurate survey could be done in any one-time period across the continent, total population numbers were unattainable.

However, many observers made educated assessments of flock size and those numbers were gargantuan. Alexander Wilson, a scientist and artist who immigrated to America from Scotland and is considered America's first ornithologist, published his nine-volume *American Ornithology* in the early 1800s. Wilson timed a one-mile wide Kentucky flock that passed overhead for over four hours. Estimating their speed to be one mile per minute, he reasoned the flock was 240 miles long. Judging by the density, he calculated that this one flock on this one day comprised well over 2 billion birds.

The better-known avian artist John James Audubon a few years later observed a flock also in Kentucky that blotted out the sun and from which droppings fell like melting snow flakes. That flock filled the air for three days; and Audubon also estimated his flock to be well over one

billion. Numerous observers made similar estimates in New England, southern Canada, the upper Midwest, and the south-central states. The huge flocks migrated south for the winter, north for the summer, and in all directions seeking food sources.

DESCRIPTION

Somewhat resembling the relatively drab mourning dove, the male passenger pigeon was larger, far more colorful, and sported a long split tail. The slightly smaller female, like most avian distaffs, was not as attractive. Descriptions give the male a slate blue head, a grayish-blue back, and a ruby-orange neck and breast. Because no one ever expected the extinction, relatively few skins were saved or mounted. The birds were extinct before color photography, and not being a game bird, few found their way onto the artist's canvas. They were just too numerous for anyone to care.

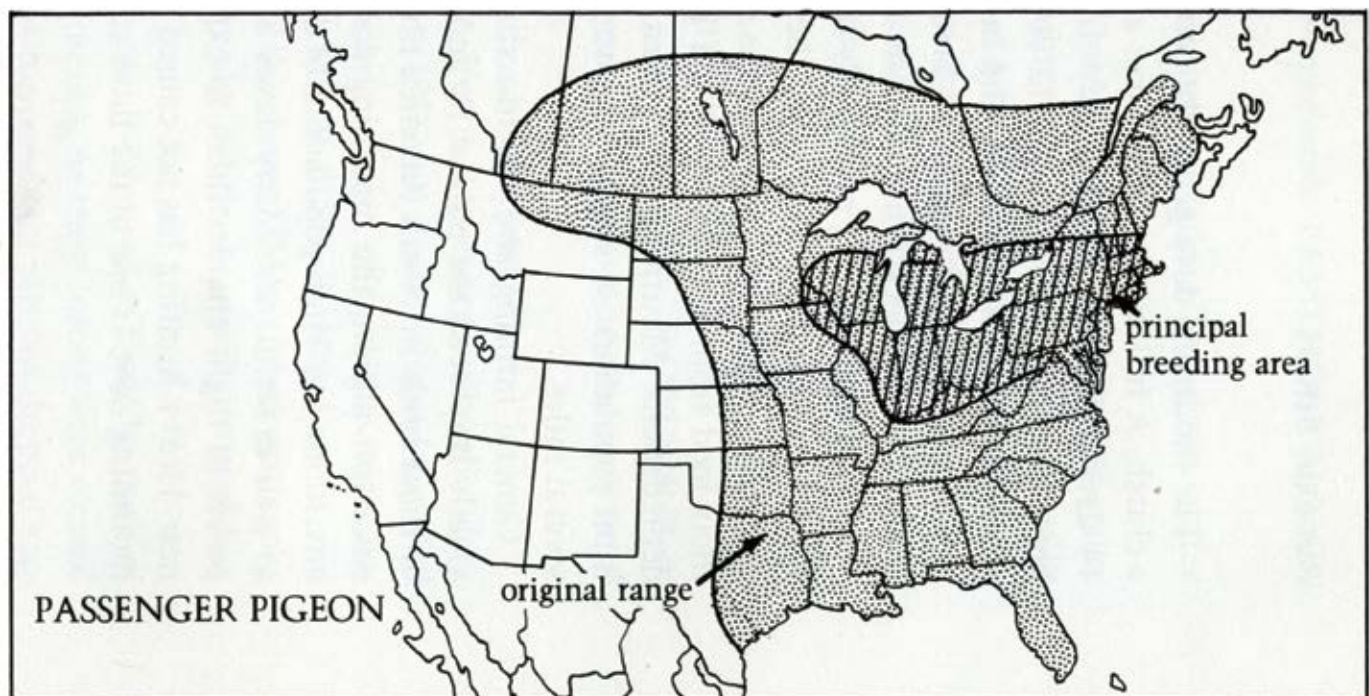
The males' iridescent coloration took on different hues as the flocks turned and banked, or dropped into and climbed out of a valley. Reading these descriptions carried

up images of airborne rivers of changing color descending, ascending, juking right, then left. A low-flying flock would split coming to an obstacle and join together once passed. An avian predator might momentarily divide the flock much as a finned predator would a school of fish.

Passenger pigeons with their large and powerful breast muscles were built for speed. It was not uncommon for the birds to fly 80 miles from their roost to their food source, their predominant food being beechnuts or small acorns. When nesting, the flock's males would feed on the morning shift, then females during the early afternoon, and then the males again in the evening, each shift sometimes flying an hour in each direction, while their mates attended the nest.

ROOSTS AND NESTS

It would seem impossible for a bird of such enormous numbers to be extinguished so rapidly, but the en masse roosting, nesting, and feeding facilitated the demise. It is generally agreed that females laid only one egg and generally nested just



once each year. The nests were flimsy and often not very high in the trees; egg incubation lasted two weeks.

The young squabs drank “milk,” regurgitated from either parent, which had a higher concentration of both fat and protein than bovine milk. They grew rapidly and were nearly adult size after two weeks, at which point all left the nests permanently,

leaving the squabs to fly down to the ground and fend for themselves for another 10 to 14 days, until they too were able to fly off and join the adult flock.

The density of the birds when roosting or nesting was intense. Branches would snap and even trees might fall from the weight. Birds alighted in high and lower branches, making somewhat easy pickings for night hunters with torches.

The flock, having left the nesting area, would then roost in a new site, and once again might travel long

distances daily to a food source. From the standpoint of the evolutionary need to conserve energy, one would think such long flights would be counter-productive. The technology available did not allow tracking of a flock when they flew to the new roost, so folks back then often did not know where the flock’s new roost occurred.

THE SLAUGHTER

Passenger pigeons had large flight muscles and were hunted intensively for subsistence and market. Native Americans simply used long sticks as clubs to knock down roosting birds or even low flying flocks. The squabs, unable to fly their first month, were especially easy to obtain. With the arrival of Europeans, shotguns were used effectively; many birds, either flying or roosting, were obtained with one shot. Heavily nested trees were cut down to collect the squabs and injured parents.

The most effective methods were the net traps

set up alongside a patch of ground that had been seeded with grain or corn for several days. Nets up to 40 feet in length and 20 feet in width were attached to spring poles released by a hunter hidden in a nearby blind. Captive pigeons were placed in the seeded grain patch on a platform whose vertical motion was controlled by the hunter in the blind, and which caused the decoy to flap its wings. When enough birds were on the grain, the net was released. A good single haul was 100 dozen birds. Well-trained stool pigeons were valuable and expensive.

The numbers of birds sent to major cities for food was astronomical. From the Petosky, Michigan area in 1878, over 1.5 million dead birds were sent to both regional cities as well as those on the eastern seaboard. Transportation initially included wagons, then Great Lakes steamers, and finally rail.

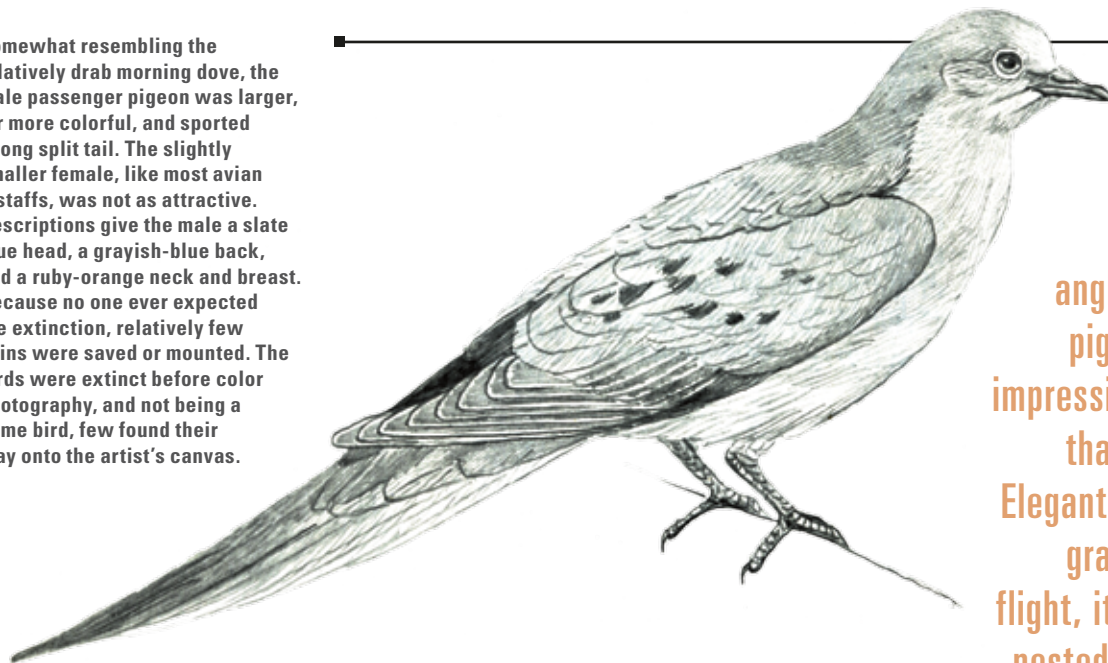
Pigeoners—a seasonal occupation for thousands

—when informed by telegraph would travel via railroad as much as 1,000 miles to a newly discovered roost. Wisconsin and Michigan had the greatest roosts. As the railroads penetrated deeper into rural areas, transporting the dead birds without them spoiling became easier. At first the birds were packed in ice, but after 1878, refrigerated railroad cars were used. In addition, hundreds of thousands of live pigeons were shipped yearly for live pigeon shoots. One 1874 New York venue alone used 40,000 live birds, eventually leading to the ban of the sport in that state.

CONSERVATION TOO LATE

Michigan was the first state to pass pigeon regulations. Initially, netting was not allowed within two miles of a nesting site, and shooting not within five miles of a nesting site. But without wardens, such rules were little followed. William B. Mershon, a wealthy Michigan sportsman and conservationist, and at one time

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“Viewed from all angles, the passenger pigeon was the most impressive species of bird that man has known. Elegant in form and color, graceful and swift of flight, it moved about and nested in such enormous numbers as to confound the senses.”
— A.W. Schorger, 1955

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the Mayor of Saginaw, became an early proponent of pigeon law enforcement. He published in 1907 *The Passenger Pigeon*, the first book on the subject, and was admitted to the Boone and Crockett Club four years later as an Associate (now called Professional) Member.

But his efforts, along with many others, were too late. The last great nesting of the pigeon was in Petosky in 1878. From that point on, few and much smaller roosts and nests occurred, and market hunting soon was no longer worth the effort. Hunters occasionally shot birds, the last confirmed specimen in 1902. Periodic sightings were claimed for another half-dozen years, but without documentation, most if not all, were probably mourning doves.

Theories on the extinction abound. Many other American species were pulled back from the brink of extinction by conservation efforts. Why not also the passenger pigeon, whose numbers were still in the millions in the 1880s? Besides hunting, lumbering took its toll on the American forests decreasing roosting and nesting areas, and also diminishing the huge mast supply needed to sustain the flocks. However, it seems there must be more to it.

Perhaps the birds' social characteristics had an influence. After all, one pair of birds produced only one egg per year. This apparently sustained the species until the slaughter began. Perhaps also as hunting pressure increased, the jittery adults were prone to abandon their nest before the chick arrived, or even after the squab was present.

Joel Greenberg in his

recently published, *A Feathered River Across the Sky* offered an interesting theory: After the adults permanently left the nest for a distant roost, their youngsters were only two weeks old, the squabs were on their own for two more weeks before flying off to rejoin the parent flock. That seems a tenuous parenting method, and if altered for any reason, the flocks could never replenish their numbers.

Perhaps the passenger pigeon's evolutionary survival required huge social masses. The flocks themselves became a living organism, and the extinction followed. The westward logging and agricultural migrations eradicated the vast forests that were the lifeblood of the flocks. As flocks diminished in size, the probability of survival waned. Whatever the combination of causes, it is apparent that the critter just couldn't adapt to the high-density settlement of the New World.

LESSON LEARNED?

The demise of the passenger pigeon could be considered our country's greatest conservation disaster, and is often given as an example of why after 42 years the Endangered Species Act (ESA) should not be modified. Like so many rules and regulations, some parts work, and others not so well. Emotion rather than reason dominates much of the discussion about improving the ESA. The act is often used as a metaphoric "stool pigeon," attracting lawsuits based on legal semantics rather than legitimate science to advance a different agenda, such as limiting logging on our national forests.

As I write this, a Washington, D.C., district judge, citing the ESA, has thrown out the gray wolf management plans for Wisconsin, Michigan, and Minnesota—a plan which the U.S. Fish and Wildlife Service and the Departments of Natural Resources of all three states have approved, and which has worked well since its inception three years ago. She opined that removing the wolf as an endangered species was "arbitrary and capricious" because the wolf inhabits only a fraction of its former range and the wolves in those three states cannot be considered a Distinct Population Segment (a biological parameter of the ESA).

Wolves are apex predators – a marvel of evolution, the biggest dog out there, and a posse of attack. Unless deterred, they don't discriminate; deer, cows, dogs, they're all prey. In the fresh fallen snow of northern Wisconsin, I count more wolf tracks than grouse prints. The great fear among the Wisconsin grouse hunters is to lose a beloved dog to wolf predation, yet it now would be illegal to protect one's dog during a wolf attack.

Judge Howell (interesting play on words, "howl") may not fully appreciate what Boone and Crockett member Aldo Leopold emphasized, that

wildlife and forest management are scientific disciplines best practiced locally, on the ground, based on research and sound reasoning. She also may not understand that predators not hunted lose the fear of man, leading to more, not less conflict.

No matter how well intentioned, it is not productive when an urban appointee a half-continent away informs the scientists that their facts, methods, and conclusions are "erroneous" and "incorrect." Does anyone truly believe that the wolf will once again be able to inhabit its historic range in a 21st century agricultural, human populated landscape?

The lessons of the passenger pigeon should be to use science and common sense, as well as caution, when dealing with environmental and wildlife issues. The passenger pigeon is gone, but it would be most satisfying to see scientific inquiry and sound judgment used to resolve contemporary issues.

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