

BRIGHT SKIES AND SILENT THUNDER

No tale in the history of human interactions with wildlife is sadder than that of *Ectopistes migratorius*, the passenger pigeon. Although the full story of the extinction of this bird may never be known, humans are responsible for the excessive slaughter that led to the decline of a vulnerable species.

In the nineteenth century, flocks of passenger pigeons were so vast in eastern North America that their numbers were estimated at up to 2 billion birds. In 1813, the famed naturalist John Audubon watched a flock of passenger pigeons pass overhead for 3 days. He reported that the flock completely darkened the sky by day and that their wings sounded like thunder.

How could a species so abundant become extinct in just a few decades? What made these birds so vulnerable was their social behavior. Passenger pigeons nested, roosted in the evening, and foraged for food in huge aggregations that covered thousands of acres. Trees became so laden with birds that their branches often broke under the weight. One nest site in Wisconsin was 100 miles long! On feeding forays, flocks traveled hundreds of miles and stripped trees of acorns, beechnuts, and other nuts. These colonies were apparently not just convenient associations, but were essential for survival. Highly organized flocks were also an important social stimulus for breeding.

Unfortunately, this behavior made the birds vulnerable. Nesting sites were predictable, and hunters came to them year after year. Professional hunters traveled from nest site to nest site during the nesting season. Birds were blinded at night with lights and knocked out of trees. They were captured in huge nets or choked by burning sulfur. Trees were felled, and the birds in them were harvested. They were shot by the thousands with guns. In 1861, 14,850,000 passenger pigeons were shipped to big-city markets from a single nesting site near Petoskey, Michigan.

How could any bird successfully reproduce and rear young under this onslaught? The single egg tended by a pair of passenger pigeons had little chance for survival during these unfortunate years. Flocks gradually dwindled. By the late 1890s, people began to realize that the passenger pigeons were in trouble. In addition to rampant killing and the resultant breakup of the social organization needed for successful mating, deforestation was contributing to the passenger pigeon's decline. Laws that prohibited further killing were too late. After 1900, no passenger pigeons were seen in the wild. "Martha," the last passenger pigeon in captivity (Cincinnati Zoological Gardens), died on 1 September 1914, after living for 29 years.