

ABOUT THE COVER: TURKEY VULTURE

The Turkey Vulture (*Cathartes aura*) has become a familiar sight in Massachusetts, particularly around the Blue Hills (in the background of the cover) in Milton, where several nests have been found and where they have been breeding regularly since the early 1980s. Their genus name is from the Greek *kathartes*, meaning purifier or cleaner, which refers to their scavenging "role" in our environment. The common name derives from their red, featherless head, which superficially resembles the head of a Wild Turkey. Their generic and common names are functionally related, because the absence of head feathers is presumably a "tidiness" adaptation related to their feeding habits (imagine how messy head feathers would get when a bird plunged its head into a dead cow). The sexes are similar, but young birds lack the red head. They are large birds, weighing five to six pounds, with a wingspread of about six feet. They are easily distinguished in flight from Black Vultures by the latter's shorter tail and protruding head and neck, white in their primary feathers, and particularly the habit of Black Vultures to make bursts of flapping followed by short glides. The Turkey Vulture soars with wings set on the dihedral, a shallow V, and frequently teeters in flight. The primary feathers are spread out in flight, acting like individual wings and increasing flight efficiency.

The Turkey Vulture is a member of the "New World vultures," and have recently been placed in the subfamily, Cathartinae, together with the subfamily, Ciconiinae, which includes the storks. The storks are the birds to which recent DNA hybridization evidence suggests Turkey Vultures are most closely related!

The Turkey Vulture has an extensive range, from southern Canada to the tip of South America. They are found from coast to coast in the United States in a wide variety of open habitats. Their abundance has fluctuated historically, with regional decreases following depletion of food resources—for example, in Montana after the reduction of the bison herds in the 1880s. Audubon found their northern limit to be New Jersey, and a general northward expansion apparently began in the 1920s. In Massachusetts the first breeding record dates to 1954. The Turkey Vulture has since become a regular, if rare, breeder. Most northern birds migrate to the southern United States or to Central America. A few vultures winter over, with the largest winter count in Massachusetts (twenty birds) at a roost in South Dartmouth in 1991. They arrive in April and leave in September and October, with high counts of around fifty birds from the Mount Wachusett and Quabbin areas.

Except when nesting, Turkey Vultures roost communally; occasionally roosts have more than one hundred birds. In early morning they can sometimes be seen perched with wings spread, absorbing heat from the sun, and drying their feathers. There is some evidence that communal roosts are an adaptation to improve their ability to forage for unpredictable and widespread food, the roost acting as an "information center."

The vultures nest in a wide variety of settings, such as precipitous cliffs, caves, hollow stumps, logs, thickets, and even in man-made structures such as an old barn and an abandoned pig-sty. The typically two white eggs, marked with brown, are usually laid directly on the ground or whatever site the birds have settled on. Courtship involves "follow-flights" with occasional dives or swoops, and a variety of displays, including spread wings, tail dragging, rocking side-to-side, inflating the crop and neck air sacks, and making groaning or yapping noises. Individual displays are sometimes preceded by a group "dance," in which many birds hop about with spread wings.

Both sexes incubate for five to six weeks, and the eggs may hatch simultaneously or up to three days apart. They fledge in eight to ten weeks or more, and little is known of their post-fledging behavior. Both parents feed the young digested carrion. Terres described the feeding: ". . . the young insert their bills into the mouth of the parent and drink the soupy food much as a fowl drinks water." Reported food items range from grasshoppers, tadpoles, fish, snakes, turtles, and small birds to large mammals, including domestic horses and cows. Road kills have become a favored source of food. Controversy about whether vultures find prey by vision or smell dates back at least to Audubon. The evidence currently suggests that they use both.

The Turkey Vulture has benefited from its association with man in parts of its range but not in others. Deforestation may open the environment for vultures and make carrion easier to find. Certainly the automobile has provided a fast-food-restaurant equivalent for vultures. However, the downside has been the extensive use of agricultural pesticides and the prevalence of industrial wastes, including heavy metals and PCBs. In Texas, Florida, and California Turkey Vulture eggs showed evidence of eggshell thinning, linked to DDT, which has been associated with reproductive failure in other species. In Massachusetts the Turkey Vulture is currently increasing and becoming an ever more common sight, dark forms teetering above the tree tops or tiny spots against the clouds.

W.E. Davis, Jr.

MEET OUR COVER ARTIST

Barry Van Dusen was the 1992 Audubon Alliance Artist of the Year and illustrator for *Birds of Massachusetts*. He recently returned from participating as an artist in a program developed by the Netherlands-based "Artists for Nature Foundation" and designed to raise funds to protect critical conservation sites throughout the world. Barry and other artists and concerned individuals met at the Extremadura area in southwest Spain, an important wintering grounds for many birds. Illustrations and papers prepared during and after the site visit will be published and sold by the foundation, with proceeds used for conservation efforts for the Extremadura area. Barry can be reached at 13 Radford Road, Princeton, Massachusetts 01541.

M. Steele