

# ABOUT THE COVER

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## Golden Eagle

The Golden Eagle (*Aquila chrysaetos*) is a large and spectacular raptor of the west that makes infrequent forays, mostly in winter, to New England. It is a large diurnal raptor with long, wide wings. Adults are brown with a golden sheen to their nape feathers that is present in all plumages. The cere, facial skin, and legs are yellow. Juveniles are darker than adults, have prominent white windows in their wings, and a white basal tail band. They do not achieve full adult plumage until five years of age. Golden Eagles soar with slightly tilted wings and have relatively small heads, giving them a buteo-like appearance. They can be confused with immature Bald Eagles, but the latter usually show some white on the body and inner wings, have larger, more protruding heads, and soar with nearly horizontal wings.

Golden Eagles are cosmopolitan, ranging through Europe, North Africa, and through Asia as well as the New World. There are five or six subspecies recognized, with *A. c. canadensis* in North America. Golden Eagles are closely related to other “booted” eagles; those with feathers down to their toes. In North America their breeding range extends from Alaska to central Mexico east through the Rocky Mountains and as far as Texas. They have historically bred locally in the east — irregularly in the Maritime provinces, New York, and New England.

Golden Eagles are diurnal partial migrants, the northern populations migrating to the western states and southern Canada, with smaller numbers filtering east. Juveniles usually migrate earlier than adults in fall but later in spring. Solitary individuals migrate, but they may become concentrated along flyways and at thermals to form “kettles” of soaring birds. They often use updrafts associated with mountain ridges and follow weather fronts during migration. They tend to be winter-site faithful, returning each year to the same locality.


Golden Eagles are considered rare migrants and winter residents in Massachusetts, with records for April and May, and October and November. They are most frequently seen in the Connecticut Valley, where as many as three have been seen in a single day.

They are monogamous, may mate for life, and retain their pair-bond year-round in nonmigratory populations. They usually first breed at age five, after they have attained their adult plumage. They breed in a variety of open habitats, avoiding dense forest. They prefer tundra, shrubland, woodlands, farm lands, and riparian habitats. In the western United States they prefer mountainous areas with canyons. They have a limited vocal repertoire, with calls associated with nest-building, threats, and food bringing, described as yelping and mewing, and various *wonk*, *yarp*, *yap*, and *yips*. Territorial conflicts sometimes end in death, but fighting is unusual, with threat displays of undulating exaggerated flight or high soaring usually controlling territorial invasion.

Golden Eagles usually nest on cliffs, but may nest in trees, the ground, or on human structures such as electrical transmission towers. The nests are constructed mostly of sticks, but may include bones, antlers, and human refuse such as pieces of fence wire, and are lined with leaves, grass, and moss. They may add sticks year-round, and nests have been known to grow to gigantic proportions, in one instance nine feet wide and eighteen feet deep.

The usual clutch is one to three — most often two — cream-colored eggs spotted brown. Both parents have brood patches, but incubation is mostly by the female and lasts six weeks until hatching. Incubation begins with the first egg so the chicks hatch asynchronously, with the smallest chick frequently starving to death; siblicide is not unknown. The chicks leave the nest in six to seven weeks, but average ten weeks to their first flight. Large nestlings hop about the nest practicing flapping. Both parents feed the young, and the fledglings remain with their parents for up to six months.

Golden Eagles are opportunistic predators of open habitats, taking a wide range of sizes and species of prey. They may forage by soaring, coursing, or from a perch, usually attacking from upwind. In soaring flight they glide to the prey, while contour flights are low and level back and forth across the ground. They may hunt cooperatively for jackrabbits and larger game, and may steal food from other birds and foxes, rob nests, take fish, and occasionally eat carrion. Ninety percent of their prey consists of small mammals, including rabbits, hares, prairie dogs, ground squirrels, and marmots. They also take geese and grouse, snakes and, among the large mammals, young mountain goats, sheep, deer, and domestic animals.

Golden Eagles are subject to nest predation by wolverines and grizzly bears, although they defend their nests gallantly, with reports of their attacking grizzly bears and striking them in the head — tough birds. Seventy percent of recorded deaths have been due to humans, including collisions with vehicles, wind turbines and power lines, and hunting, trapping and eating poisoned bait. Because they take an occasional lamb, they are not looked upon kindly by sheep ranchers, and historically they were shot from fixed wing aircraft and helicopters, with an estimated 20,000 killed between 1946-1961. They have been protected since 1962. A few are legally harvested by Native Americans under federal permits. Some surveys indicate declining population in the western United States, but not in Canada and Alaska, with increased human presence and habitat alteration probably factors in local declines. However, Christmas Bird Count data indicate increased numbers in the United States and Canada from the mid-1950s to 1999. It may be that reduced persecution has stabilized most populations and that the Golden Eagle is once again secure. 

*William E. Davis, Jr.*

## About the Cover Artist

We are glad to be able to again feature the fine work of Paul Donahue. Paul is a bird painter, environmental activist, and tree climber who divides his time between Downeast Maine, New Brunswick, California, and South America. He can be reached via email at [aracari@ptc-me.net](mailto:aracari@ptc-me.net).