



What we know about Golden Eagles in eastern North America

A brief summary by the Eastern Golden Eagle Working Group (EGEWG), an international collaborative of scientists and resource managers

NATURAL HISTORY

- **Eastern Golden Eagles are the same subspecies as Golden Eagles in western North America.** Recent genetic work suggests that eastern Golden Eagles are not a separate subspecies from the rest of the North American population. Furthermore, both telemetry data and camera-trapping data show that Golden Eagles that breed across Canada occupy a wide range of southern and central U.S. during winter.
- **Golden Eagles are generalist carnivores.** Little is known of the diet of golden eagles in eastern North America. Year-round they likely eat live prey, including deer, turkey, squirrel and other medium-sized birds and mammals. In winter, most eagles, eastern Golden Eagles included, scavenge much more than they do during the breeding season, especially winter-kill ungulates. This is another area where additional research is needed.
- **Golden Eagle weights range from 3.4 – 6.5 kg (7.4 – 14.3 lbs).** Female Golden Eagles are larger than males. Females weigh from 4.2 – 6.5 kg (9.3 – 14.3 lbs) and males weigh from 3.4 – 4.5 kg (7.4 – 9.9 lbs). Golden Eagles have a wing span of approximately 2.1 m (7 ft).
- **Identification.** Immature bald eagles are often confused with golden eagles by novice observers who assume that an eagle without the signature white head and tail must be a golden eagle. Unlike golden eagles, young bald eagles show extensive white mottling on the belly and underwings, and lack golden hackles. They also have comparatively larger beaks and shorter tails than golden eagles. Other sources should be consulted for additional information.

BREEDING RANGE & ECOLOGY

- **Golden Eagles take several months to complete their breeding cycle.** Golden Eagles commence the nesting cycle with territorial defense upon arrival on breeding grounds (mid-late March in Quebec). The females lay eggs soon after the pair establishes their territory and she incubates for about 30 days. Nestlings grow for 10 – 12 weeks and fledge in July. The fledglings remain on the territory of their parents for 4 – 8 weeks, or until fall migration.
- **Golden Eagles occupy a variety of breeding habitat types in eastern Canada.** During summer, Golden Eagles breed throughout most of Quebec and northern Labrador. Nesting is primarily on cliffs and hillsides, although in certain parts of the range (e.g., southern Quebec, Manitoba) eagles sometimes build nests in trees. Non-territorial eagles travel over much larger areas and may follow prey. There is some evidence that non-breeders congregate southwest of Ungava Bay, where there may be exceptional food resources available. Furthermore Golden Eagles breed across northern Canada, including the central provinces Ontario and Manitoba.

MIGRATION & WINTER ECOLOGY

- **Compared to most other raptor species, Golden Eagles migrate later during fall and earlier during spring.** Southbound migration of Golden Eagles through the eastern U.S. occurs during late fall (October – December, peaking in November). During spring, migration is staggered by age-classes with adults migrating earliest (mid-February – mid-March), sub-adults migrating next (mid-March – mid-April) and juveniles migrating latest (mid-April – early May). Migration movements are concentrated along the Great Lakes and the ridges of the Appalachians throughout fall and early spring (February – March). Movements are more dispersed during late spring (April – May) due to more extensive use of thermal lift across the landscape.
- **Golden Eagles winter throughout eastern North America with the highest densities in the central Appalachians.** The greatest wintering density of Golden Eagles occurs in the central Appalachians, particularly in Virginia and West Virginia. However, through the camera-trapping project, we now know that they are widely dispersed during winter through the southeastern U.S., along the Atlantic coast, and in the Mississippi River valley. We now have well-documented winter records from all states east of the Mississippi.
- **In the east, Golden Eagles typically occupy forested habitat types with high topographic relief.** In the western U.S., Golden Eagles are invariably thought of as an open-country bird. However, in winter, eastern Golden Eagles are strongly associated with forest cover, typically roosting along heavily forested slopes. They use small openings in the forest and less frequently use larger open spaces. However they also use small woodlots in agricultural and coastal landscapes. Habitat associations and wintering density of this species need additional investigation.

CONSERVATION STATUS & POPULATION TRENDS

- **Population estimate is ~5000.** Based on a combination of migration count data, winter camera-trapping data, migration modeling, counts of nests sites, and telemetry, our estimate for the size of eastern Golden Eagle population is 5000 ± 2000 .
- **Increasing awareness has led to increased Golden Eagle sightings during winter.** In the past 5-10 years, there has been an increase in the number of Golden Eagles reported during winter in the eastern US. This is almost certainly a consequence of increased public and agency awareness of these birds, through our work and the increased availability of motion-sensitive game cameras. Game cameras have allowed us to document a remarkably wide winter distribution, with Golden Eagles found in areas where no one previously was aware of their presence.
- **Population is no longer increasing.** Migration counts are our best source of data on long-term population trends. These data suggest that the population of eastern Golden Eagles increased from the 1970s through 1990s. However, count data since ~2000 no longer shows increasing trends. This implies that either the population is no longer increasing or possibly that their migration behavior is changing (e.g. a few of our telemetered birds now winter in Quebec).
- **Threats to eastern Golden Eagles.** Primary threats to eastern Golden Eagles are lead poisoning and accidental capture in fur-bearer traps with exposed bait. Additional threats include collisions with infrastructure and disturbance by energy development in remote landscapes. Although Golden Eagles are killed by collision with turbines at many wind farms in the western U.S., there have been no recorded collisions to date in the east. However, this remains a potential threat with continuing development of wind energy in high-elevation wintering areas and along migration routes in the Appalachians and along the Great Lakes.