

ally a small amount of light feathering will remain at the base of the tail.

Also note that the head of the Bald Eagle projects beyond the wings more than half the length of the tail. In contrast, the Golden Eagle's tail is as much as three times the length of the head. So the head appears to be small in comparison to the tail.

Separating immature Golden Eagles from immature Bald Eagles is more straightforward. An immature Golden shows distinct white patches on the underwings and a bold white band at the base of the tail. Young Golden Eagles never brandish any white feathering outside the patches and tail band. White feathering anywhere beyond these areas usually signifies an immature Bald Eagle. Youthful Balds have varying degrees of white throughout the body.

A large dark bird with white patches on the underwings and a broad white band at the base of the tail is probably an immature Golden Eagle. A large dark bird with white feathering sprinkled about on the back, belly, tail, or wings is most likely to be an immature Bald Eagle.

Age Differences

Bald Eagles mature in four to five years after birth. Several terms are used in the literature to distinguish different age groups. The term juvenile is often given to first-year birds. For our purposes, a bird born in late spring and carrying through until following spring will be called a dark-plumaged bird. Second-year birds will be called white belly and third-year birds will be called mottled belly to correspond with those characteristics. Fourth-year birds will be called subadult. This age group is a transition to adulthood. If the white head and tail of an eagle appears to have some dirty feathers, you are probably looking at a four-year-old bird.

Bald Eagles reach maturity at five years of age. The plumage coloration; white head, white tail, egg-yolk yellow beak and yellow eyes (tending to increase toward white), with chocolate brown to black body and wings, is retained throughout the rest of the eagle's life.

Separating the younger bird phases is difficult because molting is a gradual process providing subtle differences throughout the year.

The first-year dark-plumaged birds present a stark contrast to later immature plumages. The head of these young birds is dark as are the beak and eyes. The entire body is rather dark, including the tail. Flecks of white may be found anywhere; but this is the only age with a really dark tail.

Identifying a second-year bird (white belly) gets a little tricky. What distinguishes this age group is the lighter brown head, a glossy slate beak, and an overall grayer and paler coloration than that of the dark-plumaged bird of the first year. The eyes at this stage are also turning lighter brown. The lower breast is mottled white and gray and the belly and underwings have a great deal of white. When I see a bird with a tremendous amount of white on the belly, I think second year. At this age, a dark terminal band on the tail can also be distinguished.

The third-year or mottled belly bird is similar to the second year but tends to be darker bodied with flecks of darker feathers on the white belly. The eyes become creamy colored and the beak takes on a grayish, yellowish cast. The dark tail band near the tip is still retained. Sometimes, the head of a three-year-old becomes fairly white with a dark eye stripe.

A classic fourth-year subadult bird has a dirty white head and tail, dull yellow eyes and beak, and a dark

terminal band on the tail. The body is almost as dark as that of the adult.

Distinguishing Behavior of Various Age Groups

Over the years, I have wondered about age ratios and the reasons for color differences within a species. Knowing how to determine ages has helped me glean fascinating details about eagles by comparing seasonal data of ratios of immatures and adults. The variation in ratios from late fall into early spring is fascinating. The following is generally true of the Upper Mississippi Valley, Moline, IL north to LaCross, WI. In fall, the number of immature birds tends to be higher than adults. Immature birds leave northern territories earlier since their foraging prowess is not as well-tuned as in adults, especially when colder icy weather conditions prevail.

As the season progresses, the adult population increases within a winter range. In January and February, the ratio generally approaches three adults to one immature. A remarkable count made at Savanna in February 1993 yielded 225 eagles, 177 adults, and 55 immatures. In late winter, the migratory urge is heightened in adults, pushing them toward home territories and the nesting ritual.

Size differences between the age groups is evident. Youthful Bald Eagles have problems competing with adults or fleeing from predators so nature has provided them with some advantages. For example, immature birds have longer wings and tails compared to their bodies than adults. These features provide more buoyancy and lift, an advantage for soaring. As Bald Eagles mature, bones become more dense and the longer immature flight feathers molt to be replaced by standard adult sizes.