

INTRODUCTION

If you've ever witnessed someone's first experience of observing a perched hawk through a spotting scope, seeing an eagle snatch a fish from the water, or catching a glimpse of a hawk in his or her own yard, you know the person is simply mesmerized. What is it that is so exciting about raptors? Is it that they are skillful predators? Is it that they are big and powerful? Is it that they look menacing? Whatever it is, one thing is certain: they are attention-grabbing even to nonbirders, and they are a favored group among birders! This favored status is evident in the throngs of hawk watchers who visit raptor migration sites each spring and fall with an obsession and fervor unmatched in the realm of birding. During the migration seasons, it is common practice for hawk watchers to spend weekends or days off at their local watch sites, spending countless hours staring into the sky in search of raptors. They might even plan an entire vacation to coincide with the peak time for hawk migration. Being present for a "big day" is the highlight of their year, but missing the "big day" is heartbreaking. The biggest hawk flights are the stuff of legend, and to be part of one of these migration events can be the birding experience of a lifetime.

One aspect of hawk watching that is forever a hot topic is identification. There is a mystique about hawk identification, especially in regard to high-flying or distant raptors that are barely visible to the average person. Birders are fascinated when hawk watchers can identify these "specks" in the sky and eager to listen to experienced watchers discuss the finer points of raptor ID. At first, it seems impossible to identify birds at the limit of vision or to tell similar species apart, even up close. But with practice all aspects of hawk identification become clearer and easier to understand. Successful hawk identification relies on becoming familiar with raptors in the field and on understanding which field marks to focus on when observing a raptor in a particular situation. Each species gives a different impression or "feel," but expressing these subjective differences in words and pictures can be difficult. *The Crossley ID Guide: Raptors* presents birds in lifelike scenes so that the images (large and small) become imprinted on the reader, similar to the way one learns a new language by subconsciously absorbing it.

Raptors can be seen flying and perched at a range of distances, at varying perspectives, and in a number of settings. Because of these varying views, many nuances are involved in raptor identification, such as structure, flight style, plumage, habitat, and behavior, and each is equally important to learn. It is also important to know that specific aspects of ID are more reliable than others in certain instances. For example, the shape of a bird may be easier to tell than its plumage on a cloudy day or at a distance, or vice versa. It is helpful to visit migration or winter sites with concentrations of raptors in order to see a number of birds in one day, and often multiple species side by side. Seeing birds again and again is good ID practice and accelerates the learning process. Remember, it is impossible to identify every bird you see, but it's fun to try!

MIGRATION

Raptor migration is dynamic, and the phenomenon itself is still part mystery. We understand that most birds migrate to warmer climates for the winter, but how do they know where to go, and how do they know how to get back to their summer territories? Do they have an internal GPS system? This would make them more advanced than humans in several ways! Regardless, there is nothing more exhilarating than watching hawks pass by one after another on migration. A big movement of anything is exciting to watch—a million robins or dragonflies in a day, a "fallout" of warblers or sparrows—but a steady stream of hawks is absolutely spellbinding. Another dynamic of hawk watching is the social aspect. Many known hawk migration sites are a favorite hangout of birders, just like a coffee shop or bar. In spring and fall, birders meet at these sites on a regular basis just to chat or have lunch together, whether birds are flying or not.

Most hawk migration counts are conducted at locations where birds tend to congregate, and these sites vary, depending on their geographic location and make-up. Since raptors are reluctant to cross over large bodies of water, certain sites along the shorelines of the Great Lakes, the Atlantic and Pacific oceans, and the Gulf of Mexico, such as Cape May Point, NJ, and Hawk Ridge, MN, are great places to

see gatherings of birds. Hawks also concentrate along the Rocky and Appalachian mountains at sites such as Hawk Mountain, PA, and the Goshute Mountains, NV, where they can take advantage of the uplift that occurs when winds strike the ridges. At each site, a specific wind condition is most favorable for large flights of birds. The Hawk Migration Association of North America (HMANA) lists more than 1000 hawk migration sites in North America, and there are Web sites for many of them that offer information on count data, weather conditions, site history, and driving directions. Hawks also congregate in winter in large fields, marshes, or agricultural areas with an abundance of prey.

MOLT

Molt is an important process in the lives of birds. Feathers wear out over time, becoming abraded and tattered, and often bleached by the sun. In order for birds to maintain the ability to fly, stay insulated, and yield all the other natural history benefits of feathers, it is important that feathers be replaced when they no longer perform their function adequately. Most birds molt annually, but the extent and timing of molt vary both between and within species.

Why care about molt in raptors? A basic understanding of molt in raptors can help you identify and age many species. Raptors are large birds that spend a lot of time in the air, and it's relatively easy to see molt in the wings and tail. Understanding the molt sequences of raptors can help age birds, and in some cases an accurate assessment of molt is the only way to accurately determine a bird's age (e.g., subadult Golden Eagles). Understanding molt and wear can help you avoid identification pitfalls, too, as raptors in active molt can look atypical. At times, they may look pointy or blunter at the wingtips depending on which primaries are molting or missing, or they may look abnormally short- or long-tailed. A molting bird may appear paler-headed than usual or appear to have an unusual plumage pattern caused by missing or bleached feathers. Recognizing these situations in the field will lead you to become a more careful observer.

Most raptors have the same basic pattern of molt in the flight feathers, beginning with P1 (innermost primary) and continuing out toward the wingtip (P10). Usually these feathers are molted sequentially. Tail molt usually begins with the central and outer

tail feathers, with the interior tail feathers replaced later. Falcons differ in starting their annual molt in the middle of the primaries at P5, then progressing in both directions sequentially. In smaller raptor species, molts are generally complete, meaning that they molt all the flight, tail, and body feathers each year (usually from late spring through early fall). But in larger species that have very long primaries, molts are typically incomplete, and it can take one year or several years for all the primaries to be replaced. In the latter case, raptors often show stepwise molt patterns, a process that allows them to replace more feathers simultaneously without compromising their ability to fly. In some older buteos and eagles, as many as 3–4 "waves" of molt can be progressing through the wings at the same time, causing them to look very tattered in midsummer! Northern breeding raptors tend to have less extensive annual molts, and they usually molt later in the year than southern breeding raptors.

GROUPINGS OF RAPTORS

There are several families of raptors, and each is unique. Their shapes and behavior are adapted to their environment, habitat, and food preference or hunting needs. Many groups or individual species specialize in catching and feeding on a specific type of prey. For most raptors, the sexes are similar, and females are usually larger than males.

Vultures (3 species) are ugly, skittish birds but are beautiful in flight. They are large, mostly dark soaring birds with long, broad wings and bare heads. The largest is California Condor, the smallest is Black Vulture, and the most common and widespread is Turkey Vulture. Vultures often hang out in groups, finding food and feeding together. Their food source is dead animals, which they find by sight or smell. Black and Turkey Vultures attain adult appearance in 1–2 years; Condors take at least 5 years.

Eagles (2 species) are impressive in size and strength, with powerful talons, large bills, and long wings (up to 7 feet wingspan). They soar with ease and can travel long distances using minimal energy. Eagles can hunt a variety of prey; Bald Eagle is known to pluck large fish from the water, snatch songbirds from a marsh, and chase down ducks in flight. It also scavenges or steals prey from other raptors throughout the year. Golden Eagle hunts primarily mammals and large birds but is adept at catching snakes and just about

anything it can tackle. It is able to stoop at speeds that rival those of the Peregrine Falcon! Eagles are mostly dark, attaining adult appearance in 4–5 years.

Osprey (1 species) is a large, fish-eating raptor of coasts and inland lakes and rivers. Ospreys are active and fun to watch as they hover, dive, and slam into the water repeatedly (sometimes for hours) until they successfully catch a fish. They are adapted to holding onto fish with their sharply curved talons and the spiny pads on their feet. Ospreys are distinctive, with long, slim, bowed, gull-like wings, and boldly patterned blackish-and-white undersides. Ospreys commonly nest on manmade structures, especially platforms. They attain adult appearance during their second year.

Buteos (12 species) are a diverse group of robust hawks characterized by broad wings and short tails fit for soaring. Sometimes buteos are seen soaring in large flocks or “kettles,” especially Broad-winged and Swainson’s Hawks. Although robust, some buteos are longer-winged and slimmer overall than others, and there is a significant range in size from the largest buteos to the smallest. Red-tailed Hawk is probably the most frequently encountered and widespread North American buteo, whereas some species are range-restricted. Many species have highly variable plumages, ranging from light to dark below, and some show moderate sexual dimorphism. Buteos usually attain adult appearance in their second year, but a few acquire adult plumage in their third or fourth year. Most buteos prey primarily on small mammals, but almost all will take small birds, reptiles, and even insects. Taxonomically, Common Black-Hawk, Harris’s Hawk, and White-tailed Hawk differ from true buteos, though their habits are similar enough that we lump them in with the buteos when making general reference to this group.

Accipiters (3 species) are woodland hawks recognized in flight by their long tails and short, rounded wings. They are bird-eating specialists, and the most likely to be seen at backyard birdfeeders, especially Sharp-shinned and Cooper’s Hawks, which wait in hiding to burst toward birdfeeders in a surprise attack, chasing birds into dense cover if need be. Accipiters breed in forested areas, often away from homes, but Cooper’s has adapted to suburban areas. Northern Goshawk is rare across North America and the least likely to be encountered. Distinguishing the accipiters from each other in flight requires

considerable practice using a combination of shape, flight style, and plumage. Accipiters often fly directly, flapping and gliding intermittently more often than do other raptors, but with sufficient lift they are proficient at soaring. Accipiters attain adult appearance in their second year.

Harriers (1 species) are a large, worldwide family, but only the Northern Harrier occurs in North America. A Harrier’s buoyant, languid flight is mesmerizing to watch as it teeters low over marshes and fields in search of mice and voles. It is easy to identify, and often easy to observe, but unique in many ways. Harriers have long, narrow wings, a long tail, and a brilliant white rump that often clinches their ID. They also have a unique facial pattern made up of stiff feathers that form an owl-like facial disk that helps them to hunt by sound as much as by sight, sometimes in near darkness. Harriers perch on the ground or on low posts, but rarely in trees or on high perches. Adult males and females are markedly different in plumage. Harriers attain adult appearance in their second year.

Kites (5 species) are a diverse, lesser-known group of raptors that reside in warmer regions. Three North American species (White-tailed, Mississippi, Swallow-tailed) are characterized by long, pointed wings and are graceful masters of flight. Their aerial maneuverability, especially when taking small prey such as insects on the wing, is unmatched. The other 2 North American kites (Snail, Hook-billed) have paddle-shaped wings and eat mostly snails. Kites attain adult appearance in 1–2 years.

Falcons (7 species) are exciting birds to watch. They fly at high speeds when chasing prey over open country and can perform vertical stoops at speeds so fast they are hard to follow, even with the naked eye! “Typical” falcons (genus *Falco*, 6 species) have narrow, pointed wings and frequently take prey in mid-air. All North American falcons have dark brownish black eyes, and a tomial tooth (notch near the base of the upper mandible). Crested Caracara is considered a type of falcon, but it is very different from the others in appearance and behavior. Caracara has blunt wings, a long tail, and bright facial skin, and it inhabits a restricted southern range. It feeds on carrion and is often seen with vultures. The North American falcons range from nearly songbird size (American Kestrel) to Red-tailed size (Gyr Falcon).