

Introduction

Identifying raptors is similar to solving a mystery by piecing together clues. By far, the greatest challenge of raptor identification is naming distant birds. This is because plumage details (and sometimes flight style and structure) can be difficult to judge from afar. Even for the most experienced observers, identifying raptors based on plumage alone can be flawed. With this in mind, imagine how difficult it is to distinguish two species that are practically identical in plumage, like Sharp-shinned and Cooper's Hawks. Even a distinctive plumage trait like the red tail of an adult Red-tailed Hawk can be difficult to view in the field. With practice, **it is more accurate to tell similarly plumaged birds apart by shape and flight-style differences than by coloration.** I identify most of the distant raptors I see based on shape and flight style, using plumage traits only if clearly visible. Remember, there are exceptions to every rule, so almost no field mark is 100 percent exclusive to one species.

At any hawk-watching site, a close-up bird will draw "oohs" and "aahs" from observers. But because most hawks seen in the field are distant, *Hawks at a Distance* is a necessary guide. It focuses on distant birds and discusses traits that are truly useful in the field, leaving out certain others that can only be judged at close range. Be aware that some field marks may be difficult to see in the photos in this book. This is done purposely to show how these field marks truly appear in the field. *Hawks at a Distance* is the first guide that presents birds of unknown identity, pointing out instances when telling age, sex, color morph, or species is impossible, and showing the effect that lighting and molt can have on a bird's appearance. Only migrants that are common

across the United States and Canada are covered. **Most of the photographs in this book were taken during autumn migration from August 15 to November 30. Birds photographed during spring migration from March to late May or otherwise are noted as such.**

I am frequently asked which hawk identification problem I believe is the most difficult. Several come to mind, like telling brown Prairie Merlins from female Kestrels at a distance, ageing Golden Eagles to a specific year, telling a Peregrine Falcon from a Prairie Falcon by silhouette, or telling adult female from juvenile Harriers in spring. However, some aspects of identification are simply impossible due to overlap or similarities in plumages, like telling the race of some Red-tailed Hawks, Merlins, or Peregrine Falcons. Remember, it is enjoyable to simply watch raptors without fussing over their age, sex, or race and that learning hawk identification is an ongoing process.

HOW TO USE THIS BOOK

Hawks at a Distance is designed to show raptors in "real world" settings and help with identification of birds seen with only a quick glimpse. Therefore, the birds throughout these pages are meant to appear distant, unlike most guides that present close-up portraits of birds. *Hawks at a Distance* presents each species in all light conditions. Each color plate is a composite that includes up to six images and a single caption. They are presented this way so that each color plate is viewed in its entirety as the description is read. Throughout the color plates, birds are shown in poses (i.e., soaring, gliding) in which migrants are normally ob-

served. This is intended to stress the shape features referred to in the captions of certain color plates.

The black-and-white plates portray shape characters for each species pointed out by the accompanying captions. These plates are designed so that the reader's eyes wander around the page and take in the entire page quickly. The text is short so that it is easy to remember and so that the book is uncluttered. Key identification traits are in boldface throughout the text, and memorizing these traits will prove to be useful in the field. For example, the traits in boldface for Golden Eagle are **“large, dark bird . . . extremely long, somewhat broad wings . . . dihedral when soaring, slightly bowed when gliding . . . slow moving and steady.”**

One of the keys to identifying raptors is to **learn the basic characteristics of each species well** instead of learning the minutiae for each. For example, recognizing the shapes of each raptor, and understanding how they vary under different circumstances, is much more valuable than knowing the eye color of each raptor. Be aware that certain written or spoken descriptions (particularly regarding wing beat and flight style), and even the same field observation between various people, can be interpreted differently. For instance, I once heard the words “stiff,” “choppy,” “snappy,” and “aggressive” used independently by four separate observers to describe the wing beats of a single bird as it flew by.

TERMINOLOGY

Age Terminology

Some age-related terms can be misunderstood or misinterpreted. The terms “juvenile” and “adult” are fairly straightforward

and easy to understand (see Glossary), but the terms “immature” and “sub-adult” are sometimes unclear. Even some ornithologists disagree on the exact definitions of these terms. Regardless, the terminology throughout this guide is used in a consistent, practical manner.

The term **“immature” describes a bird whose plumage is other than adult.** Therefore, an immature bird is either a juvenile or a sub-adult. Some argue the term “immature” relates to a bird's sexual maturity regardless of its plumage. For instance, a breeding accipiter in juvenile plumage (which is sometimes the case with females) could be regarded as an adult because it is producing young. However, age terminology herein defines a plumage as it pertains to field identification, not a yearly age or sexual maturity.

The term “sub-adult” describes a bird whose plumage is **a distinct plumage altogether from that of an adult or juvenile.** Birds in their first adult plumage (that may have none or several juvenile feathers retained) that are essentially identical or appear identical in the field to successive adult plumages are simply “adults.” Most raptors reach adulthood after their first molt cycle starting at about one year old. A few species take about two years, while eagles typically take about five years to reach full adult plumage.

Color Morph Terminology

Throughout this guide, the term “dark” is used to describe buteos that are mostly or completely dark on the underside. This includes birds otherwise known as “intermediate morph” and “dark morph.” **Intermediate and dark-plumaged birds often appear identical to each other at a distance, which**

is why both are simply classified as “dark” birds throughout this guide. About 90 percent of dark Swainson’s, Red-tailed, and Ferruginous Hawks are truly intermediate birds, but are mistaken for dark birds regularly. On the other hand, intermediate plumages of Broad-winged and Rough-legged Hawks are rare, with dark birds being the norm. I refrain from using the terms “morph” and “phase” throughout the text since they can be misleading, and instead use the terms “light” and “dark” to describe a bird’s plumage.

The term “intergrade” describes a bird with a plumage that falls between two subspecies (like Taiga and Prairie Merlins) or between a subspecies and a recognized form of a species (like Krider’s Red-tailed Hawk, a pale form of the Eastern Red-tailed Hawk). A hybrid is the offspring of two separate species; hybrids rarely occur naturally, but are commonly bred for falconry.

GLOSSARY

Adult plumage - A bird in its definitive plumage.

Axillaries - Wing pits (see Anatomy).

Bib - A dark patch of feathers on the breast.

Buffy - A pale tan coloration.

Carpal - Underwing area at the “wrist” where all the primaries meet (see Anatomy).

Cere - Flesh between the bill and forehead.

Crown - Top of the head.

Dihedral - Wings held above the plane of the body in a “V” position (see Flight Positions).

Dilute plumage - An overall light tan plumage on a normally darker bird.

Flight feathers - Primaries, secondaries, and tail feathers.

Glide - To fly forward with wings pulled in (see Flight Positions).

“Hand” - Consists of all the primaries, the outermost part of the wing (see Anatomy).

Head-on - Eye-level, front profile (see Flight Positions).

Hover - To remain stationary in flight while flapping (see Flight Positions).

Immature - All ages other than adult.

Intergrade - A bird showing traits of two different races or forms.

Juvenile - A bird in its first plumage.

Kettle - A group of birds soaring together.

Leggings - Feathers that cover the legs and sometimes the feet (see Anatomy).

Leucism - Presence of some or all white feathers on a normally darker-plumaged bird. Sometimes referred to as albinism.

Melanism - Presence of dark feathers on a normally lighter-plumaged bird.

Modified dihedral - Position of wings raised at the shoulder and level at the “wrists” (see Flight Positions).

Molt - Replacement of old feathers with new feathers; usually occurs from April through September in raptors.

Morph - Color form.

Nape - Back of neck (see Anatomy).

Patagium - Area between the “wrists” and body along the leading edge of the wings (see Anatomy).

Primaries - Ten outer remiges or “hand” of the wing; the notched outer primaries make up the “fingers” of a hawk (see Anatomy).

Rectrices - Tail feathers.

Remiges - Secondaries and primaries.

Rufous - An orange-rust color.

“Rump” - Feathers covering the bases of the uppertail coverts (see Anatomy).

Scapulars - Feathers along the sides of the back (see Anatomy).

Secondaries - Flight feathers from the

“wrist” to the body making up the base of the wing (see Anatomy).

Sexual dimorphism - Distinct difference between male and female plumages of the same species.

Soaring - Rising in a circular motion with wings outstretched (see Flight Positions).

Stoop - To dive with wings folded (see Flight Positions).

Sub-adult - A bird in plumage (and age) between juvenile and adult.

Subterminal band - The next to last band on the tip of the tail.

Superciliary line - Line of pale feathers over the eye (see Anatomy).

Tawny - Dark yellowish-brown color.

Terminal band - A band at the tip of the tail or wings.

Undertail coverts - Feathers covering the underside of the base of the tail (see Anatomy).

Underwing coverts - Feathers covering the underwing (see Anatomy).

Uppertail coverts - Feathers covering the topside of the base of the tail (see Anatomy).

Upperwing coverts - Feathers that cover the upperwing (see Anatomy).

Wing base - Inner half of the wing from the “wrist” to the body.

Wing-on - An eye-level, side profile (see Flight Positions).

Wing panel - A pale or partially translucent “window” in the primaries (see Anatomy).

“Wrist” - Joint on the leading edge of the wing where the secondaries and primaries meet (see Anatomy).

HAWK MIGRATION

Each spring and autumn, migration occurs across almost all of North America. Raptors move in a broad front, but are known to

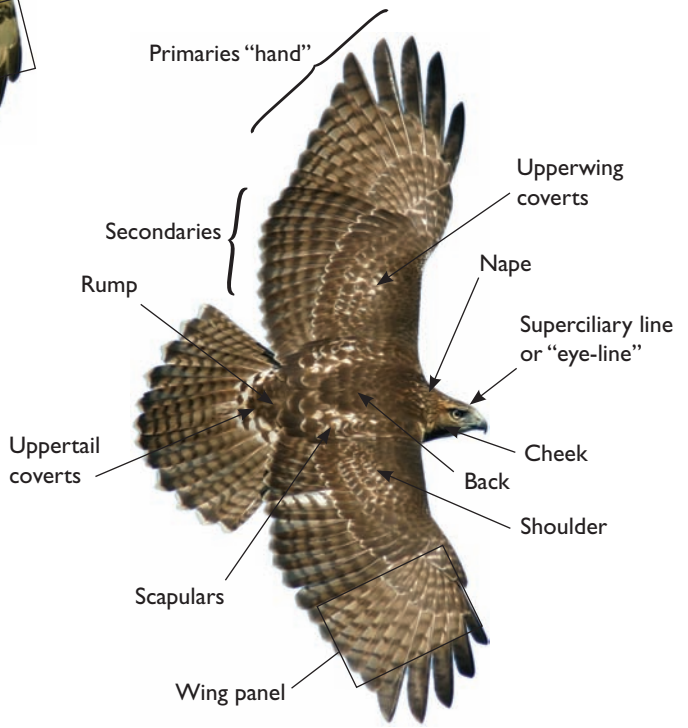
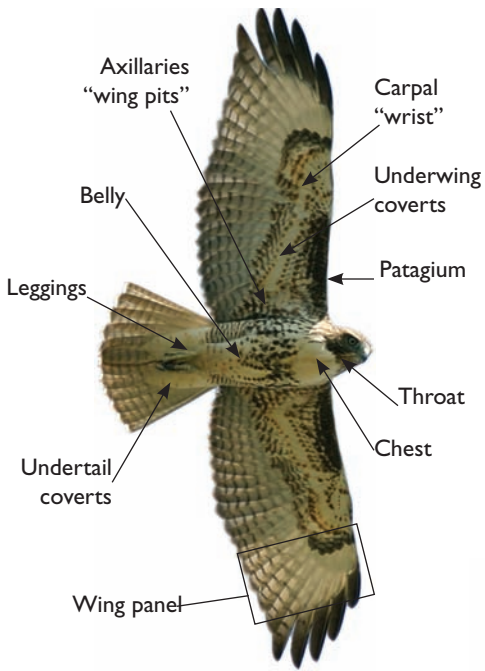
concentrate along “paths” created by coastlines or mountain ranges. Official hawk migration counts are conducted at many shoreline sites in North America, especially along the Great Lakes, the Atlantic and Pacific oceans, and the Gulf of Mexico. There are popular ridge-top count sites along the Rocky Mountains in the West and the Appalachian Mountains in the East. More than a thousand hawk migration sites are known in North America, and websites exist for many of them. The Hawk Migration Association of North America (HMANA) is an excellent resource for hawk migration sites and migration in general.

HELPFUL HINTS

I cannot imagine how many times I have over-analyzed or second-guessed the identity of a bird only to realize my first impression of the bird was correct. The saying “if it walks like a duck . . . it is a duck” is applicable to all forms of birding, so becoming familiar with the shape and flight style of each raptor species is the key to identifying them. For example, most people can recognize a family member or friend from a long distance because they are familiar with the person’s figure or the way the person walks. Learning hawk identification through repeated observations is the same concept.

Sometimes birders hear or read about an identification trait for the first time and then apply it incorrectly in the field. For example, I have seen Cooper’s Hawks mistaken for Broad-winged Hawks because they “showed tail bands.” Another example is relating a plumage trait that only occurs on an adult bird to a juvenile, or vice versa, or noting the manner in which a bird holds its wings in a certain position when it applies to a different posture. **Some traits apply to only one**

ANATOMY



FLIGHT POSITIONS



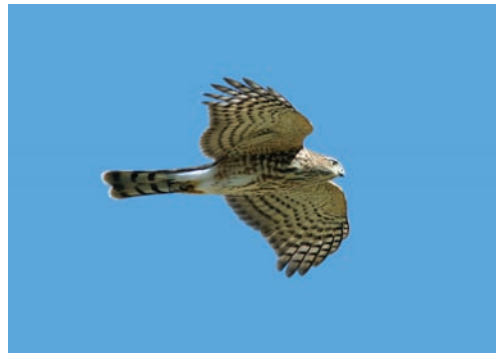
Soaring



Head-On



Gliding



Wing-On



Away



Stooping



Hovering



Flapping



Dihedral



Modified Dihedral

species, race, color, age, or sex, while others are shared among species. For example, the topside of the tail on a light Rough-legged Hawk is dark with a white base, but a dark Rough-legged Hawk lacks the white base on the tail. It is a good idea to understand traits thoroughly before relying on them in the field. Remember, it is more helpful to learn the basics of identification well before concentrating on the finer points. For example, birders should learn to recognize a Broad-winged Hawk's relatively stocky, pointed wings, and quick, choppy wing beats, with a secondary focus on plumage.

A good starting point to identifying a hawk to species is to decide what type of hawk (accipiter, buteo, falcon, etc.) it is. While this is often obvious based on structure, at times birds can change shape as they change postures. For example, Harriers have rounded wing tips when soaring, but their wings are strongly tapered and falcon-like when gliding. Also, birds can look and fly differently at ridge sites than over flat lands. For example, Ferruginous Hawks are often buoyant and wobbly along a ridge, but are fairly steady fliers over flat areas. Many birds are seen overhead or above eye

level at flat land sites, but are often seen at or below eye level along a ridge. Therefore, experience at both types of sites is helpful.

Birders often attempt to identify raptors as quickly as possible, but studying birds with little concern for naming them “on the spot” aids in learning them. Snap identifications can be accurate only with experience and familiarity. It is also beneficial to watch a bird of known identity as it flies farther and farther away. Keep in mind that it is impossible to identify every bird; making accurate, positive identifications is much more rewarding than erroneously identifying every bird in the sky. **I have never met true experts who believe that they know everything regarding identification or can identify every bird they see.** Many accomplished hawk watchers are not the most vocal or authoritative persons in a crowd, but often the quiet ones off to the side.

HAWK COUNTING

Whether at a world-renowned migration site or fairly unknown one, counting hawks can be challenging and fun. If one’s primary objective to counting hawks is to tally as many birds as possible, then there are certain techniques that will help in doing so. My approach is to focus primarily on birds passing nearby or overhead, and distant raptors secondarily. It requires more time to spot and identify distant birds than it does close birds. Therefore, the more time spent on distant birds, the greater number of birds that pass by undetected. Of course, distant birds should be monitored, but only after any nearby birds have been counted. Many distant birds eventually approach within sight as they pass. I have seen birders point out every “speck” on the horizon while failing to spot many of the nearby or overhead birds.

Probably the greatest factors influencing the number of hawks an observer counts are the effort of the observer and the scanning technique used. It is natural to scan across a horizon. However, **it can be much more effective to scan slowly in an up-and-down manner** (one field of view at a time) toward the origin of the main flight line. After scanning each side, scan across the sky overhead down to the horizon. When there are clouds overhead, it is productive to scan with the naked eye. Binoculars are often necessary with clear skies. **It is essential to scan slowly to spot high-altitude birds in a blue sky** that otherwise would be passed over with a quick scan. Resting binoculars on a tripod or armrest is a great way to stabilize them, making it much easier to focus on a distant subject.

OPTICS FOR HAWK WATCHING

There is no single binocular best suited for hawk watching. In a nutshell, most 7x (magnification) binoculars offer a wide field of view, while 10x binoculars offer added magnification. Regardless of the power, beginner birders should equip themselves with high-quality binoculars. Many birders (including myself) start off with an inexpensive model, only to buy a high-quality model later. Compact binoculars may offer a sharp image, but have a limited field of view, which makes locating birds difficult. There are several manufacturers that offer high-quality models. I have used Zeiss 7x45 Night Owls since they were introduced in 1994 and still love their sharpness and unmatched wide field of view. However, I acquired Zeiss Victory FL binoculars in 2008 and believe they offer the finest image available.

I highly recommend watching hawks with binoculars only! This is contrary to some

birders who prefer to use high-powered spotting scopes. While using a scope, it is natural to focus on searching for plumage details of distant birds, and to disregard the shape and flight-style traits that are sometimes the only things visible with binoculars. Some observers will spot a bird in their binoculars and immediately try to locate it in their scope. Because of the scope's small field of view they never identify the bird as a result. Also, a spotting scope can be ineffective in gusty winds that cause it to shake (especially if it is mounted on an unstable tripod) or on days with strong heat shimmer that distorts an image. For those who prefer to use a scope for watching hawks, an eyepiece with a relatively large field of view is helpful. Fixed eyepieces with a single magnification tend to offer a wider field of view than zoom eyepieces (which offer various magnifications, but a small field of view). Zoom eyepieces are suitable for observing perched or idle birds, but fixed eyepieces are more suited for birds in flight. Overall, field experience is more valuable than high-powered optics in regard to identifying hawks.

PHOTOGRAPHY

Photographing birds in flight is exciting, but can be challenging. For raptor photography, a good auto-focus camera with a lens with a focal length between 300 and 500 millimeters is preferred because it has sufficient magnification and is easy to hand-hold and maneuver. Tele-converters add magnification to a lens, but may degrade the image quality slightly or slow the auto-focus and reduce the available light. Remember, the higher magnification the lens, the harder it is to hold the lens steady and locate birds in a viewfinder. A tripod will help stabilize a

lens, but it can be awkward to use when tracking fast-moving birds or birds directly overhead.

Several manufacturers offer a variety of camera models that are excellent for action photography. Regardless of the brand, it is important to learn how to set up and use your camera. Many photographers keep their camera's factory default settings intact because they work well. Understanding how to use your camera's manual mode to select the proper settings for different conditions takes practice, but will optimize the chances of acquiring desirable photos. The manual mode allows for on-the-spot compensation in exposure with the turn of a dial. High ISO speeds will allow for faster shutter speeds; however, high ISO settings increase the "noise" (also known as "grain" when referring to film) in a photograph. All photographers improvise their techniques once they learn their subject, equipment, and surroundings.

Ethics

There are certain behavioral practices regarding wildlife photography that are unethical. The American Birding Association (ABA) reviews birding ethics in detail on their website. Some photographers overlook certain ethical issues, like trespassing on private property or altering habitat in any way, in order to capture a desired image. A rule of thumb is to emphasize the safety and welfare of a bird before one's personal agenda. Any exceptions to this rule are selfish and unethical. Photographing birds at nests is the foremost "no-no" regarding photography, and unfortunately the no-nest rule is being overlooked more often nowadays. Nest disturbance exposes eggs and chicks to predators and inclement weather, and may cause adults

to abandon nest sites. While it is necessary for biologists to visit nest sites on occasion, photographers should never approach nests on their own.

Photographers should refrain from chasing or “bumping” birds for extended periods (more than a few minutes), and should never bump birds that are eating or holding prey. I have heard of photographers who have harassed a single hawk or owl from

sunup to sundown. On top of this, they were using live bait in order to capture their desired images. Introducing a foreign food source into the wild is a risk to native wildlife. Even the most beautiful photograph becomes undesirable when found it was taken unethically. Photographers should enjoy witnessing a remarkable bird or event even if the chance to photograph it was unsuccessful.

Table 2

Occurrence of North American Raptors on Migration

Species	West	East
Black Vulture	Rare	Common except North
Turkey Vulture	Common	Common
Osprey	Fairly common	Common
Bald Eagle	Fairly common	Common
Mississippi Kite	Rare except Texas	Rare
Northern Harrier	Common	Common
Sharp-shinned Hawk	Common	Common
Cooper's Hawk	Common	Common
Northern Goshawk	Uncommon	Uncommon except Great Lakes region
Red-shouldered Hawk	Rare except California	Common
Broad-winged Hawk	Uncommon	Common
Swainson's Hawk	Common	Rare
Red-tailed Hawk	Common	Common
Ferruginous Hawk	Fairly common	Extremely rare
Rough-legged Hawk	Uncommon	Uncommon except Great Lakes region
Golden Eagle	Common	Fairly common
American Kestrel	Common	Common
Merlin	Common	Common
Peregrine Falcon	Fairly common	Common
Prairie Falcon	Fairly common	Extremely rare

Note: West = west of Minnesota and eastern Texas; East = east of North Dakota and western Texas.