

**Eastern Migrant Raptor Flight Guide**

The material contained in this document has been gathered from personal observations, conversations with fellow hawk watchers, and the published sources listed on page two. This document may be copied for hawk identification usage. I hope this is a useful tool for identification.

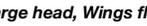
Page 1 of 2 Robert (Bob) C. Pettit © September 2019  
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	<b>Body</b>	<b>Tail</b>	<b>Wing</b>	<b>Head</b>	<b>Underparts</b>	<b>Flight</b>	<b>Behavior</b>	
<b>Accipiter</b>	<b>Sharp-shinned Hawk</b>  <i>Shrugging, Snappy, Straight, Soiled, Social.</i>   	Narrow, stubby. Equal to length of tail. A flying mallet of wings and tail.   	Tip usually squared. Terminal band is narrow, soiled, not white and hard to see.  <b>Straight Sharpie</b> <b>Soiled Sharpie</b>	Short, broad, and very round at the tip. The leading edge has the wrist projecting or pushing forward. The trailing edge shows an "S" curve.	Appears to be pulled back since wings are pushed forward.  <b>Sshrugging Sharpie</b>	<b>Immature:</b> Chest and belly have thick noodle-like streaking. Looks dirty at distance.  <b>Adult:</b> Rusty barring on chest and belly.	Flapping and gliding is hurried and snappy. Too rapid to count. In a glide tends to hold tail up above head.  <b>Snappy Sharpie</b>	Travels in 1's, 2's or up to 8 at a time.  Feisty, agitator, intimidator.  <b>Social Sharpie</b>
	<b>Cooper's Hawk</b>  <i>Crossing, Casual, Curved, Crisp, Companionless.</i>   	Large version of Sharpie. Body appears shorter than tail.  <i>A flying cross.</i>   	Long with tip usually rounded. Terminal band is broad white and easy to see.  <b>Curved Cooper's</b> <b>Crisp Cooper's</b>	The wing is rather long and straight-edged with <i>little or no bend at the wrist.</i>	Large and heavy. Protrudes forward of the wing, as a turtle's extended head so eye is well forward.  <b>Crossing Cooper's</b>	<b>Immature:</b> Only the chest has thick noodle-like streaking. Looks white or clean at distance.  <b>Adult:</b> Rusty barring on chest.	Countable flapping gliding with flaps are stiff. <b>Moth-like flapping.</b> In a glide tends to hold head up above land.  <b>Casual Cooper's</b>	Solitary birds usually not traveling in pairs or groups. Soars high with other raptors with fully extended wings.  <b>Companionless Cooper's</b>
	<b>Northern Goshawk</b>  <i>Buteo-like, Tubular. Eye-line visible.</i>   	<b>Buteo size and shape. Tubular.</b> Cylindrical.	Broad and wedge-shaped. Appearing like an extension of the body.	Leading edge almost straight. Trailing edge like Sharpie's 'S' curve.	Fist-shaped, large, broad <b>Eye-line visible.</b> <b>Adult:</b> Black eye patches.	<b>Immature:</b> Heavy noodle-like streaking on breast to base of tail. <b>Adult:</b> Pale gray barring	Wing beat is heavy, deep, labored like a buteo. A flying tube.	<i>An accipiter that looks like a buteo.</i>  <b>Immature Red-shouldered</b> similar looking but <b>NO eye-line.</b>
<b>Falcon</b>	<b>American Kestrel</b>    ♂      ♀  <i>'flying banana'</i>	Killdeer-sized. Dainty and delicate looking. Strong back curving of the wings and tuck of the head gives a <i>flying banana</i> look.  <b>Female</b> slightly but not noticeably larger than male.	<b>Male:</b> Bright rufous tail with a broad, dark band near the tip.  <b>Female:</b> Reddish brown, overlaid with dark, broken barring. No dark tip.	Soft curving wing; swept back; sickle-shaped; like a " <i>flying banana.</i> "  <b>Male:</b> Blue above. Line of white dots on trailing edge termed "necklace."  <b>Female:</b> Reddish above. Necklace of buffy dots.	A vertical slash-marks on both sides of the face look like a <i>mustache</i> and <i>sideburn</i>	<b>Adult:</b> Very pale. Lightly streaked and spotted, especially on the sides.  <b>Immature:</b> Similar to adult, with more heavy streaking below.	Light, lively, fluttery, wandering. Accipiter-like quality. On calm days flight behavior similar to Sharpie's flap-flap-glide. Glides more often than Merlin and Peregrine. Battered about by moderate winds.	In a strong wind, it bounces like a cork on the water.  Travels in 1's, 3's, 4's or up to 8-10 in a loose group.  Eats dragonflies while flying.
	   <b>Merlin</b>  <i>Point-to-point flight. Solitary.</i>	Athletic, slender, and powerful.  <b>Male:</b> Larger than Kestrel. Bright metallic blue above.  <b>Female and Imm:</b> Large pigeon. Chocolate falcon.	<b>Male:</b> Dark blue tail shows several pencil-thin, blue-gray bands.  <b>Female:</b> Dark brown tail shows many pencil-thin buffy bands.	Longer and broader than Kestrel.  Broad isosceles triangle-shaped with sharply pointed tips.	<b>Mustache</b> mark is faint, blurred, ambiguous, vague, and imprecise.	Fine to heavy streaking.  <b>Male:</b> Finely streaked below.  <b>Female:</b> Heavy streaking below with contrasting white throat and buffy under tail coverts.	<b>Point-to-point flight</b> is consistent & direct. Doesn't wander nor is altered by wind speed. Wing beats are quick & continuous with short strokes. Power in down-stroke. 'Pigeon' flight.	Its demeanor may be irritating, galling, and bothersome. Usually <b>solitary.</b>
	   <b>Peregrine Falcon</b>  <i>Extremely long-winged Wing beat like Common Loon.</i>	Medium-to-large with wide range between sexes. Heavy and broad.  <b>Adult:</b> Blue-gray above. <b>Immature:</b> Brown back.	Fairly long- and broad-tailed falcon.  When fully spread it forms a semicircle that nearly touches the trailing edge of the wing.	<b>Very long-winged falcon.</b> Wide base triangle-shape. In soaring bird, they resemble tapered candles.	<b>All individuals</b> have a bold, distinct mustache mark.  <b>Immature:</b> Blond crown and nape.	<b>Adult:</b> Heavily barred below, with a gleaming white chest and throat.  <b>Immature:</b> Heavily streaked, with a buff-colored chest and throat.	Wing beat is fluid, rhythmic, elastic, and whip-like.  <b>Similar to a Common Loon's wing attitude.</b>	Solitary in migration.  Confused with the <b>Northern Harrier</b> that has longer wings and tail.
<b>Osprey</b>	  <b>Osprey</b>  <i>Black &amp; white showy plumage Distinctive gull-shape.</i>	<b>Adults and Immatures:</b> Similar in appearance; with distinctive <i>black and white patterned plumage and distinctive gull-shape.</i>	<b>Adult:</b> Lack a narrow white border on the tip of the tail. <b>Immature:</b> Have a narrow white border on the tip of the tail.	<b>Adult:</b> Long & gull-shaped with darker mottling on the underwing. <b>Immature:</b> Long & gull-shaped with thin white trailing edge border.		Soars on long and lanky crooked-wings.  Wings bend up above horizontal axis and then downward at wrist.  Beat is stiff, arthritic.	Looks like a gull.  Uses thermals and updrafts.	
	  <b>Northern Harrier</b>  <i>Proportionately longest tail of all N. American raptors.</i>	Long, lean, lanky, medium size. <i>White rump patch.</i> <b>Male:</b> Silver gray above, white below. <b>Female:</b> Tawny above buffy with <i>brown streaks</i> on sides below. <b>Immature:</b> Chocolate-rust above. <i>Orange to cinnamon</i> below. No streaking.	Long and narrow. <b>Proportionately longest tail of all North American raptors.</b>  	Long and narrow. Bold dihedral. Attitude may be pointed (falcon) or blunt (buteo).  <b>Male:</b> Underwing shows inky-black tips and trailing edge.	<b>Immature:</b> Head is dark; appearing hooded.  <b>Male:</b> Black head.  	<b>Male:</b> White.  <b>Female:</b> Buffy with brown streaks on sides.  <b>Immature:</b> Cinnamon, to mahogany, or rust-colored.	<b>Rocks unsteadily</b> in a wind, buffeted like a ship on a wave.  <b>Wing beat loping</b> and regular; emphatic snap to downward stroke.  <b>Best Clue: unique cadence.</b>	Migrate alone, in pairs, or groups of 3's and 5's.  Flight path is usually single file.
<b>Vultures</b>	  <b>Turkey Vulture</b>  <b>Bold dihedral.</b> (Not a raptor.)	Uniformly dark black. Sexes similar.	Broad tail, usually not spread.  	<b>Bold dihedral.</b> Long, broad, plank-like, deeply slotted tips. Flight feathers silver with underwing coverts and leading-edge black.	Diminutive, Lilliputian, minute, minuscule, tiny! <b>Adult:</b> Red with yellow bill. <b>Immature:</b> Dull gray with gray bill.	Two-toned. Uniformly dark black but flight feathers are silvery.	Long tail and no head. Rocks in flight like a tightrope walker.	Gregarious. Rarely flaps. Singles mis-ID as Golden Eagle. Uses thermals for lift.
	  <b>Black Vulture</b>  <b>NO dihedral.</b> (Not a raptor.)	<i>Raven-like — clothed in black.</i>	Very short tail.  	Wings <b>held horizontally.</b> Shorter than TV's wings. All feathers dark except primaries being silvery.	Totally gray, featherless, and small. Bill pale.	Entirely black except for silvery patches on the underside of the primaries.	Soars with its wings held horizontally going a short distance then engages in a burst of wing flapping followed by another soar.	Rare in northern mid-west states and Canadian provinces.  Rarely in a thermal.

"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". — Jerry Liguori, *Hawks at a Distance*, Introduction, pg 1.

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Eagles	 <b>Bald Eagle</b>   <i>Large head, Wings flat.</i>	<i>Immense size in all age classes.</i> <b>Adult:</b> Dark, almost black. <b>1<sup>st</sup> year:</b> Chocolate, almost black, speckled with dirty white; mottling varies and is age related.	Important field mark; white to dark. White in Adult and Immature is dark without or with some white ↔ <b>BE Body continued</b> <b>2<sup>nd</sup> &amp; 3<sup>rd</sup>:</b> Large areas of white mottling are present on the belly and some it located on the back.	In soar, uniformly wide — slab-like; held at right angle and straight out. <b>Adult:</b> Dark, almost black. <b>Immature:</b> Speckled with dirty white; mottling varies and is age related.	Head and bill are massive. <b>Adult:</b> White. <b>Imm:</b> Dark.	Great variation. <b>Adult:</b> Dark. <b>Other ages:</b> Various amounts of white on belly, wings, and tail ↔ <b>BE Wing continued</b> <b>1<sup>st</sup> year:</b> White limited to underwing linings. It appears as broad white line at leading edge area. Wing pits white.	↔ <b>BE Wing continued</b> <b>2<sup>nd</sup> &amp; 3<sup>rd</sup>:</b> <b>Underwing patches generously white.</b>	Steady, stately, deliberate, even-keeled, and not stiff. Beat is slow, robust, deeply arched, and high on upstroke.	Flap continuously. Or never flapping.
	 <b>Golden Eagle</b>  <i>Small head, Slight dihedral.</i>	Large and dark, similar in appearance and shape to <b>Immature</b> Bald Eagle. <b>Adult:</b> Dark brown. <b>Immature:</b> Dark.	White at base of tail. <b>Adult:</b> Trace of white feathering may be present at the base of the tail. <b>Immature:</b> White tail broadly edged with a dark terminal band.	Long, broad slab-like wing similar to Bald Eagle. <b>Adult:</b> Lack white wing patches. <b>Immature:</b> Brilliant white patches on the wings large and obvious.	Head and bill are small. Crown and nape blond or pale gold in all plumages.	Uniformly dark except for flight feathers and tail.	Wing beat slow and ponderous. Shallower wing beat than the deep arcing beat of a Bald Eagle. Like slow, gliding, single distant Turkey Vulture.	Flies singly (1) or in groups of 2 or 3.	
Buteos (broad wings)	 <b>Red-tailed Hawk</b>  <i>Patagium, Muscular wing.</i>	<b>Adult and Immature:</b> Similar in plumage – brown to gray-brown above and light below, with varying amounts of speckling and streaking. They do differ in tail color.	<b>Adult:</b> Has a red tail that is gotten during the second year. <b>Immature:</b> Have finely barred brown tails that show white at the base.	<b>Best Clue: Patagium</b> Patagium on leading edge is near the body. Found only in the Red-tailed (all plumages). Underwing 'comma' at the wrist.	Brown to gray-brown.	Very white below. A distinct bellyband is present on most birds.	May hover-hunt and is capable of kiting.	The Red-tailed Hawk will be a reference for identifying other buteos. This bird is the large hawk of the highway roadside.	
	 <b>Red-shouldered Hawk</b>  <i>Curved 'stained-glass window'</i>	Compared to Red-tailed in flight, it appears slimmer, sleeker, and cylindrical. <b>Adult:</b> Body chestnut. <b>Immature:</b> Body not chestnut & brown above.	Boldly striped with black and white broad bands. Tail sub terminal band isn't noticeably different from the other bands. Long in <b>Imm</b> ; short for <b>Adults</b> .	Long, narrow, and clean-edged; lacks the bulging of the Red-tailed. <b>Adult:</b> Underwings chestnut. Flight feathers boldly striped with black and white.	Nothing special to note.	<b>Adult:</b> Chestnut. <b>Immature:</b> Cream-colored below with heavy streaking on the chest.	In full soar, entire wing projections forward, Beat is quicker than a Red-tailed but stiff as though the bird was swatting the air with cupped wings.	It thinks it's an accipiter. General appearance is that of a buteo trying to mimic an accipiter.	
	 <b>Broad-winged Hawk</b>  <i>Small, chunky, Crow-sized. Use thermals for travel.</i>	Small, chunky, stubby, and Crow-sized. <b>Immature:</b> Brown above.	<b>Adult:</b> Broad black and white tail bands. . Sub-terminal band on the tail is darker and wider than the other bands on the tail.	Underwings of both <b>Immatures</b> and (especially) <b>Adults</b> are very clean and white. The broad, dark outer border extending from wing tip back along the trailing edge accents this. The look is a white picture and black frame.	Nothing special to note.	<b>Adult:</b> Barring on chest. <b>Immature:</b> Creamy below with heavy streaking on the face, throat, sides, and belly (suggesting a band).	<b>Soar:</b> wings are short and broad and are held horizontally and flat at almost a perfect 180°. <b>Glide:</b> Wing leading edge is curved & trailing edge is straight like blade of a paring knife.	Depend more on thermals than most hawks. In the East, a large flock of buteos intuitively means Broad-winged.	
	 <b>Rough-legged Hawk</b>  <i>Large, lanky, slender buteo. Boldly patterned with two color forms.</i>	Large, lanky, slender buteo. It's boldly patterned, setting the bird apart from most buteos. Several different plumages occur, relating to age and sex, but these are conspicuous. Light morph dark morph birds occur	<b>Light morph:</b> Upper surface is white except for a broad, dark band at the tip. <b>Dark morph:</b> Show almost no white on the tail, and some have none. Some show an obvious broad dark sub-terminal band.	Juts up sharply from the body forming pronounced dihedral then flattens out at the wrist. Hunched-shoulder posture is only seen in the Rough-legged. <b>Light morph:</b> Light with some streaking. <b>Dark morph:</b> Black underwing linings.	<b>Light morph:</b> Creamy or tawny crown and nape (usually over-streaked with brown). <b>Dark morph:</b> Black.	<b>Light morph: Adult:</b> Are heavily streaked on the chest, making the bellyband less obvious. <b>Immature:</b> Largely unstreaked and very pale below. Note the carpal patch, dark belly, and dark tail band. <b>Dark morph:</b> Silvery flight feathers and undertail.	Wing beat is steady, unhurried, methodical, and deeply arched. Flapping doesn't frequently happen in a series, but if the bird does fly in a series of pumps and glides, there are more pumps to the glide.	Readily use own power for flight. They are the least hesitant buteo in crossing open water. Flight seems effortless; done with a sense of purpose and grace	
	 <b>Swainson's Hawk</b>  <i>Dark and Light morph occur.</i>	<b>Light-morph</b> adult has white underparts, rufous bib, and dark gray flight feathers. <b>Dark-morph</b> varies from reddish brown to dark brown underside with rufous color to underwing coverts. <b>Glides</b> with modified dihedral. <b>Gliding wings</b> appear falcon-like	Dunne, P., D. Sibley, and C. Sutton; 2012, <i>Hawks in flight: Flight identification of North American migrant raptors</i> , 2nd Ed, Houghton Mifflin. Dunne, P., D. Keller, R. Kochenberger; 1984, <i>Hawk Watch: A Guide for Beginners</i> , New Jersey Audubon Society. HMANA, 2009, Developed by Paul Carrier for Hawk Migration Association of North America, <i>A Guide to Hawks Seen in North America</i> . Liguori J.; 2005, <i>Hawks From Every Angle: How to Identify Raptors in Flight</i> , Princeton University Press Liguori J.; 2011, <i>Hawks at a Distance</i> , Princeton University Press. Wheeler, B., and B. Clark; 1999, <i>A Photographic Guide to North American Raptors</i> (Paperback), Academic Press Wheeler, B.; 2003, <i>The Wheeler Guides: Raptors of Eastern North America and Raptors of Western North America</i> , Princeton University Press						