

Texas
Ornithological Society
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Instructor:
Bill Clark

RAPTOR IDENTIFICATION
September 23-25, 2022

RAPTOR FIELD IDENTIFICATION

Taught by Bill Clark
Texas Ornithological Society

Diurnal Raptors
Friday-Sunday September 23-25, 2022

Friday evening (7-9 PM)

Session I. Introduction

II. Review of field ID.

Saturday Morning (7.9 AM)

III. Difficult ID problems I. Sharp-shinned vs Cooper's Hawks

IV. Difficult ID problems II. Buteonines

Sunday morning (7-9 AM)

V. Kites, Falcons, Rare raptors

VI., Unusual Raptor plumages & ID summary

Course Instructor: Bill Clark.

Field trip: Saturday & Sunday after lectures

Course texts: *Hawks,* Peterson series raptor field guide, Rev. Nov. 01
Photographic Guide to N. A. Raptors.

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Session I. **INTRODUCTION**

1. The Peterson ID system is based on Field Marks. Field marks are those features of a bird that, either by themselves or in combination with one or more other features, are recognizable in the field and serve to accurately distinguish that species, but also include features that can distinguish age or sex or both. Field marks can be plumage characters, wing or tail shape in flight, relative position of wingtips and tail tip on perched raptors, wing attitude in flight, and behaviors, such as hovering.

2. There are actually two sets of field marks to be used to identify any raptor. One set serves to identify perched raptors and the other serves to distinguish raptors in flight. Some field marks work in both cases, for example, the rufous tail of the Red-tail.

3. Raptors can vary much in plumage characters, which is one reason why they are so notorious to identify. However, in spite of this variation, some characters are constant and thus serve as good field marks, e.g., the dark patagial mark on the under wings of all Red-tailed Hawks.

4. JIZZ is an acronym (General Shape and Size) and refers to the holistic approach to field ID used to identify distant raptors (and other birds) on which one usually cannot see field marks. This is difficult to teach and is best learned by experience, particularly by carefully observing raptors that have been identified by field marks at close range and watched as they go away. It is not as accurate as the field mark system. A properly prepared Video or CD-ROM would be the best way to teach this.

5. Raptors' overall shape in flight, especially wing shape (particularly when soaring), tail shape, and, to a lesser extent, head projection, are important field marks. Also important are the relative position of wing tips and tail tip on some perched raptors. Only the newest general bird field guides show these shapes correctly for diurnal raptors, but they do not have sufficient space to show the range of variation in raptor plumages.

6. Basic facts of raptor identification.
 a. Sexes are often different sizes; females are usually larger.
 b. Adults and juveniles have different plumages.
 c. Sexes of adults sometimes have different plumages.
 d. Wing width is sometimes different between adults and juveniles.
 e. They fledge at the same size and weight as those of adults.

7. Wing shape varies with mode of flight.
 a. Soar. Usually in thermals, to get height. Wings fully spread. Best for ID as this is held for long periods.
 b. Glide. Variable wing shape depending on angle of dive, varies from primaries slightly pulled back to fully closed wings.
 c. Powered Flight. Wingtips often more pointed. Wing beat rate often helpful.
 d. Hovering or Kiting. A good behavioral field mark.

8. Wing attitude is also an important field mark. Wings are held level, in a dihedral, or gull-like and may be held different in glide and soar.

9. Size is difficult to judge under field conditions. Measurements in *Hawks* and *NA raptor photo guide* are mainly useful for comparing two species that are flying together.

10. Raptors, like other birds, can appear different under differing light and field conditions.

11. Using correct terminology is important. Juvenile is a noun and an adjective and refers to a raptor in its first plumage after down. Juvenal is only an adjective. Immature means simply "not adult." Subadult is also a loose term. Go over List of Terms and accompanying figures from Introduction of *Hawks* or Photo guide.

12. AOU and ABA age classes:
 a. Juvenile. From nest until first molt.
 b. Basic II. After first molt, if different from adult.
 c. Basic III, and so on, until,
 d. Definitive Basic. Adult plumage.

13. Knowledge of feathers and molt is helpful. Note that tail and flight feathers appear different on upper and under sides. Molt is usually completed annually for most raptors, begun in spring and completed in autumn. The transition plumage of one-year-old birds in summer can be confusing. Sequence of flight feather molt for raptors, e.g., eagles, that do not molt all secondaries every year is important.

14. Crop. Raptors store their food for a while in a widened area of the esophagus called the crop. This is for predigestion of the meat and is usually held there for about an hour. Sometimes, when lots of food is eaten, the bulge of the crop is obvious.

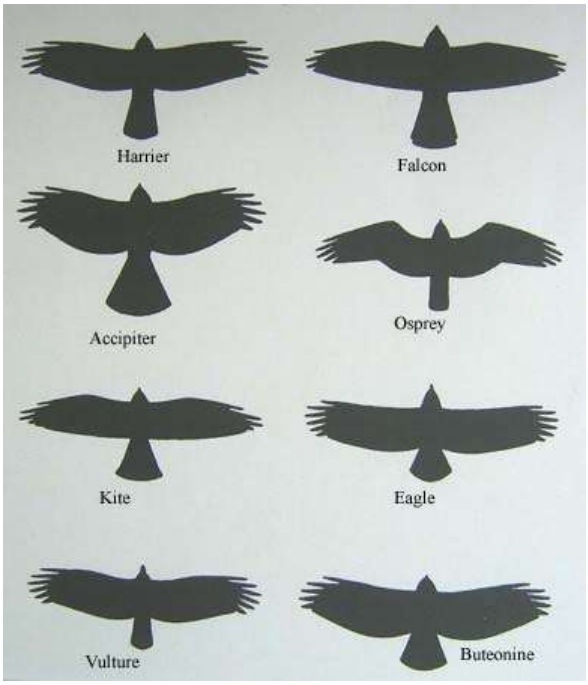
15. Range maps have inherent limitations: they do not show density, habitat preference, detectability due to behavior nor do they the precise limits of summer and winter ranges as these are usually not well known and vary with time. State, Provincial, and regional bird books should be consulted to provide finer detail on distributions and relative abundance.

16. Odd plumages. Raptors do not always look like the illustrations in field guide.

Session II. RAPTOR ID REVIEW

The first problem of raptor field ID is determining the type of raptor in question. The various types and number of species in each type in our area are:

a. Vultures (2). Large, blackish raptors with unfeathered heads.
b. Osprey (1). Large eagle-like raptors with entirely white body.
c. Kites (3). Medium-sized raptor with light wing loading.
d. Harrier (1). Raptors with long wings and tail.
e. Accipiters (2). Raptors with short, rounded wings and long tails.
f. Buteonines (6). Raptors with long broad wings and short tails.
g.Falcons (5 + 1 falconid). Raptors with long pointed wings and long tails.



VULTURES are large, dark carrion-feeding raptors that have bare (featherless) heads.

1. **Turkey Vulture** (*Cathartes aura*). Main field marks are:
a. Adults have red heads, often with white warts.
b. First-plumage adults are like adult but with two-toned beak.
c. Juveniles have blackish heads.
d. Brownish cast to back and upper wing coverts.
e. Pinkish legs.
f. Two-toned under wings: black coverts contrast with silvery flight feathers.
g. Long tail.
h. Holds wings in strong dihedral.

2. **Black Vulture** (*Coragyps atratus*). Field marks are:
a. Overall black.
b. Adults have grayish, wrinkled heads and yellow beaks.
c. Juveniles have smooth, down-covered heads and dark beaks.

d. Shows white primary panels.
e. Short tail.
f. White legs.
g. Holds wings in slight dihedral.

The **OSPREY** is a large, fish-eating raptor that is classified in a family of its own.

1. **Osprey** (*Pandion haliaetus*). Main field marks are:
a. Large, white-bodied, gull-like raptor.
b. Adults have uniformly dark brown backs and yellow eyes.
c. Juveniles have scalloped backs and orangish eyes.
d. Holds wings crooked.
e. White head has dark eye-stripe.
f. Lacks supra-orbital ridge giving pigeon-headed look.
g. Shows black carpal patches on undersides of long wings.
h. Females have, on average, more prominent dark breast bands.
i. Distant soaring birds often show orangish tails.

Kites are buoyant aerial raptors. Three species.

White-tailed Kite (*Elanus leucurus*). All year. Main field marks are:
a. Whitish, falcon-like kite.
b. large black carpal patches are diagnostic.
c. Black shoulder patches are diagnostic on perched birds.
d. Juvenile is similar to adult, but has rufous band on breast, white tips on flight feathers, upper wing coverts, and back, and narrow dark subterminal band on tail.

2. **Mississippi Kite** (*Ictinia mississippiensis*). Migrant. Field marks are:
a. Adults have gray bodies and black tails and show wide white bars on upper wings and flared sides to tail.
b. Basic II's are juveniles returning in spring after they have molted into adult-like body plumage but have retained flight feathers, tail, and under wing coverts.
c. Juveniles have heavily streaked underparts, a short, wide, pale superciliary above each eye.

3. **Swallow-tailed Kite** (*Elanoides forficatus*). Migrant. Field marks are:
a. Unmistakable shape, especially the long, forked tail
b. Bold black and white plumage.
c. Eyes are dark brown.
d. Juveniles have shorter tails.

HARRIERS are long-winged, long-tailed raptors.

1. **Northern Harrier** (*Circus cyaneus*). Main field marks are:
a. White upper tail coverts in all plumages.
b. Adult males and females have different plumages; plumage of juveniles is similar to that of adult female.
c. Glide with wings in a strong dihedral.
d. Adult males are overall gray, white, and black, with rufous spots on underparts.
e. First-plumage males have brownish backs and brown markings on the breast.
f. Adult females and juveniles have brown upperparts.

g. Adult females have buffy underparts that are heavily streaked.
h. Juveniles have rufous underparts that are unstreaked or barely streaked.
i. Dark secondary panel on under wings of juveniles is diagnostic.
j. Juvenile females have dark brown eyes, and males have pale brown, grayish, or yellowish eyes.

ACCIPITERS have short, rounded wings and long tails and are forest dwellers. Field identifications problems are primarily between the Cooper's Hawk and the other two. There is no size overlap between Sharp-shinned Hawk and Cooper's Hawk (Covered later).

Buteonines are robust raptors with long, broad wings and short to medium length tails. Six species occur. Underwing patterns and wing shapes are excellent field marks to distinguish flying buteos. Covered later.

Under wing patterns of light-morph buteonines. The underwing patterns of all light-morph buteonines will serve to distinguish **all** individuals.
1. **Red-tailed Hawk** (*Buteo jamaicensis*)
2. **Swainson's Hawk** (*Buteo swainsoni*)
3. **Broad-winged Hawk** (*Buteo platypterus*)
4. **Red-shouldered Hawk** (*Buteo lineatus*)
5. **White-tailed** (*Geranoaetus albicaudatus*)
6. **Harris's Hawk (***Parabuteo unicinctus*)
All are covered later.

FALCONS are small to medium-sized raptors that have long, pointed wings and long tails. Four species occur regularly, plus one falconid.

1. **American Kestrel** (*Falco sparverius*). All year. Field marks are:
a. Two narrow dark moustache marks below each eye.
b. Chestnut coloration in plumage.
c. Under wings appear pale.
d. Males and females have different plumages.
e. Plumages of juveniles are similar (males) or almost identical (females) to those of adults.
f. Wing tips fall short of tail tip.
g. Row of white dots on trailing edges of male's under wings is diagnostic.
h. Hovers regularly.

2. **Merlin** (*Falco columbarius*). All year. Three subspecies occur: taiga regular and prairie and black rare. Field marks are:
a. One faint narrow moustache mark below each eye.
b. Appears overall dark, particularly their under wings.
c. Dark tail shows narrow pale bands.
d. Adult males and females have different plumages.
e. Juveniles are almost like to adult females and are difficult to separate from them in the field.
f. Wing tips fall quite short of tail tip.

3. **Peregrine** (*Falco peregrinus*). All year. Three subspecies occur: anatum regular, tundrius on migration, and Peale's rare. Field Marks are:
a. Helmeted head, with one wide dark moustache mark below each eye.

b. Relatively longer wings than Merlin and Kestrel.
c. Under wings appear dark, darker on juveniles.
d. Adults have unmarked white breast and heavily barred belly.
e. Juveniles are heavily streaked below.
f. Wing tips reach or almost reach tail tip.

4. **Aplomado Falcon** (*Falco femoralis*). Reintroduced. Field marks are:
a. All have distinctive face pattern.
b. All have long narrow wings and long tail with many narrow white bands.
c. All have distinctive dark cummerbund.
d. All show narrow white band on trailing edge of wings.

5. **Crested Caracara** (*Caracara cheriway*). Field marks are:
a. Unusual large-headed and long-legged falconid.
b. Large beak and bare face skin.
c. Adults are bold black and white, with barring on breast and back.
d. Juveniles are brown and buffy, with streaking on breast and back.
e. Basic II plumage is adult-like, but browner with less well-defined barring on back and breastand rufous streaking on crown.
f. In flight the large pale primary panels and long head and neck are distinctive.

SHARP-SHINNED VS COOPERS' HAWKS

The separation in the field of Sharp-shinned Hawks and Cooper's Hawks is the most difficult raptor field ID problem in North America. In spite of the differences in size and structure, these two hawks usually appear remarkably similar in the field.

1. **Sharp-shinned Hawk** (*Accipiter striatus*). Main field marks are:
 a. Adults have blue-gray backs, barred rufous underparts, and red eyes.
 b. Juveniles have brown backs, streaked brown-rufous underparts, and yellow eyes.
 c. Females are separably larger than are males.
 d. Head is small and rounded (hackles cannot be raised).
 e. Top of adult's head is same color as back.
 f. Tail feathers are all about the same length, corner of tail is square, and white band on tip is narrow.
 g. Streaking of juveniles is as heavy on belly as on breast and is barred on flanks.
 h. Legs are long and stick-like.
 i. In flight, head projection is short, bend of wing is pushed forward, and short tail is square tipped.

2. **Cooper's Hawk** (*Accipiter cooperii*). Main field marks are:
 a. Adults have blue-gray backs, barred rufous underparts, and red eyes.
 b. Juveniles have brown backs, streaked dark brown underparts, and yellow eyes.
 c. Females are separably larger than are males.
 d. Head is relatively large and eye is relatively small.
 e. Back of head (hackles) often raised, giving square appearance.
 f. Top of adult's head is darker than back color, with line of contrast with paler nape.
 g. Outer tail feathers are shorter than central ones and all have wide white tips.
 h. Juveniles often show rufous on neck and nape.
 i. Juvenile streaking on belly and flanks is light or absent.
 j. Legs are robust.
 k. In flight: head and neck are long, leading edge of wing is held straight, and tail is long with rounded tip.
 l. Soars with wings held in slight dihedral.
 m. Adult males have gray cheeks, females rufous.

The field marks that will serve to distinguish them when a hawk is seen well are enumerated below, with a separate section for in-flight ID and another for perched ID.

IN FLIGHT FIELD MARKS.

Head projection.

Coopers: Long projection of head and neck, wings held straight out from body.

Sharpie: Shorter head projection, wrists pushed forward.

Tail.

Coopers: Longer tail with wide pale tips, with rounded outer corners. Outer two feathers progressively (stair step) shorter.

Sharpie: Shorter tail with narrow pale tips, with squared-off outer corners. All feathers about the same length. Often shows notch.

Wing attitude when soaring.

Coopers: Leading edge of wing straight. Wings Held in slight to medium dihedral.

Sharpie: Wrists thrush somewhat forward. Wings held level.

Underparts of juveniles.

Coopers: Narrower dark brown streaking, petering out on belly.

Sharpie: Thicker, more blob-like, reddish-brown streaking on breast becoming heavier on belly and flanks.

Head color of juveniles.

Coopers. Often show rufous cast to sides of head.

Sharpie. Sides of head brown.

Cooper's Hawk

Sharp-shinned Hawk

PERCHED FIELD MARKS.

Head.

Coopers: Head is large, often with hackles raised giving squared look. Eye appears relatively smaller.

Sharpie: Head is small and always rounded (cannot raise hackles). Eye appears relatively large.

Tail.

Coopers: Longer tail with wide pale tips, with rounded outer corners. Outer two feathers progressively (stair step) shorter.

Sharpie: Shorter tail with narrow pale tips, with squared-off corners. All feathers about the same length. Often shows notch.

Legs.

Coopers: legs robust, Sharpie: legs stick-like.

Adults.

Coopers: Cap darker than back with line of contrast with paler nape. Males have gray cheeks, females rufous.

Sharpie: Cap same color as back with no line of contrast.

Juveniles.

Coopers: Back has more pale markings and appears paler. Usually no pale superciliaries.

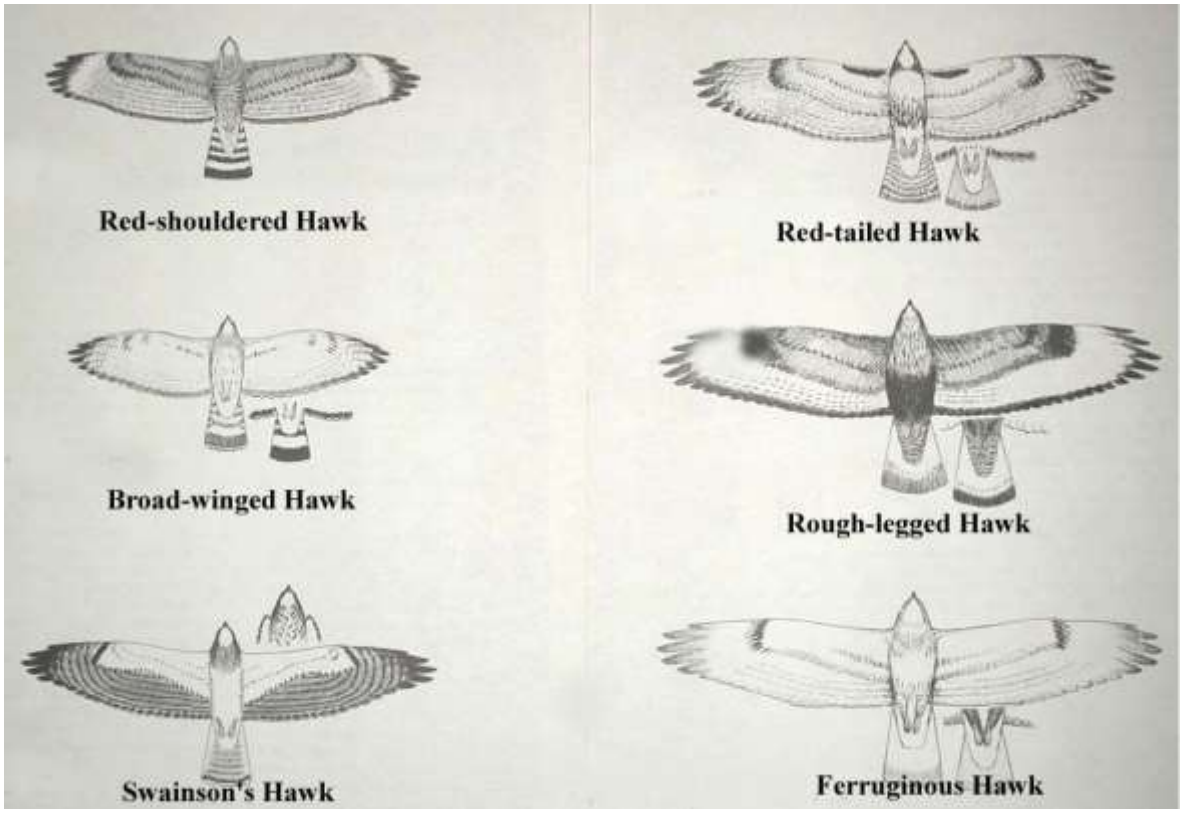
Sharpie: Back is almost uniformly dark with few pale markings. Almost always has pale superciliaries.

Session IV. DIFFICULT ID PROBLEMS

BUTEONINES

The best field marks on flying Buteos are their wing shapes and under wing patterns. A good field mark on perched Buteos is the relative position of wing tips to tail tip. Below are some fine points on identifying Buteos in western North America.

Under wing patterns of light-morph Buteos. The underwing patterns of all light-morph Buteos will serve to distinguish **all** individuals.



"Buzzard' spot. Some individuals of all Buteo species show a dark spot on the nape. Formerly thought to be a field mark for Rough-legged Hawk.

1. **Red-tailed Hawk** (*Buteo jamaicensis*). All year. Field marks are:
 a. Adults have red (rufous) tails, but juveniles do not.
 b. Dark patagial marks on under wing is diagnostic.
 c. Pale wing panels on juvenile's upper wings includes primary upper wing coverts and divides upper wing into two areas; dark inner wing and paler outer wing. Diagnostic.
 d. Wing panels are visible on juvenile's under wings; these are trapezoidal-shaped, same as those of juvenile Broad-winged Hawks.
 e. Belly band is **not** diagnostic; some adults do not show this field mark and individuals of other species can show it.
 f. Pale areas on backs form an incomplete 'V,' a good field mark on perched birds, but see below for

possible confusion with some Swainson's Hawks.
g. Juvenile upper tail is pale brown with numerous narrow equal-width dark brown bands.
h. Wingtips fall just short of tail tip.
i. Dark- and rufous-morph adults have rufous tails, or gray in Harlan's.
j. Dark- and rufous-morph juveniles have typical juvenile tails with equal-width dark bands.
k. Partial albinos are fairly common.

Wing panels on upper wings. Pale wing panels that extend to front of wing are diagnostic for juvenile Red-tail. Best field mark for flying juvies. Juvenile Rough-legged Hawks and all Ferruginous Hawks have pale primary panels on upper wings, but their primary coverts are darker and pale panel does not extend to wrist. Red-shoulder's panel is crescent-shaped.

Wing panels on under wings. Wing panels on underwings are the result of sunlight being transmitted through paler areas when wings are back lighted. These panels are square or trapezoid-shaped on Red-tails and Broad-wings, but crescent-shaped on Red-shouldereds.

Belly Bands. This mark is not diagnostic for Red-tails, as some adults do not show it and individuals of other species can, particularly juvenile Broad-wings and Swainson's and some Ferruginous Hawks.
Pale scapulars. This field mark is good for identifying perched Red-tails, but only in the East, as this character is shared with juvenile Swainson's Hawks. Separate by wing tips reaching tail tip on juvenile Swainson's, but not on juv. Red-tail.

2. **Red-shouldered Hawk** (*Buteo lineatus*). Field marks are:
a. Adults have rufous on lesser upper wing coverts that form reddish shoulders on perched birds.
b. Black-and-white pattern of adults' upper wings is diagnostic.
c. Crescent-shaped wing panels are diagnostic.
d. Adult breast is uniformly rufous.
e. Juveniles are unlike juveniles of other races; they are more like adults.
f. Glides with wings held in an Osprey-like crook, with wrists up and tips down.
g. Usually quite rufous.

3. **Broad-winged Hawk** (*Buteo platypterus*). Field marks.
a. Adults have dark tails with one wide white band.
b. Under wings lack noticeable field marks, except for dark border.
c. Wings are rather broad but have pointed tips.
d. Juveniles' tails are pale brown on uppersides with dark brown bands.
e. Juveniles show trapezoidal-shaped wing panels on under wing in flight, like those of juvenile Red-tails.

4. **Swainson's Hawk** (*Buteo swainsoni*). Summer and migrant. Field marks are:
a. Two-toned underwing is diagnostic: pale coverts and gray flight feathers.
b. Adults show dark bib and paler belly. Note large white throat patch.
c. Wing shape is long and narrow, with pointed tips. Wings are held in a medium dihedral in flight.
d. Juveniles often show two dark patches on sides of upper breast and take two years to reach adult plumage.
e. Wing tips reach tail tip on perched birds.
f. Dark-morph birds have white undertail coverts.

5. **White-tailed Hawk** (*Geranoaetus albicaudatus*). Field marks are:
   a. Adults have white tails with narrow dark subterminal band.
   b. Basic III hawks are similar to adults but with slate head, throat, and upperparts; black or rufous wash on underwing coverts, and fine rufous to dark barring on the flanks and uppertail.
   c. Basic II hawks are similar to juveniles, but lacks pale spots on the face, has wider wings, and grayish tail is shorter and shows a dusky subterminal band, dark belly band. White breast is usually wider and more extensive.
   d. Juveniles are overall blackish with pale spots on the face, narrow wings, long tail, and usually a white slash on the breast.
   e. Wingtips exceed the tail tip on perched White-tails.

6. **Harris's Hawk** (*Parabuteo unicinctus*). Popular in falconry and bred easily in captivity. Escapees likely.
   a. All dark brown except for chestnut wing coverts and white tail feathers.
   b. Long tail has white tip, wider in adult.
   c. Wings are paddle shaped.
   d. Juveniles are like adults, but their underparts are streaked white and undersides of primaries are whitish.

Session V: KITES

1. **White-tailed Kite** (*Elanus leucurus*). All year. Main field marks are:
a. Whitish, falcon-like kite.
b. Large black carpal patches are diagnostic.
c. Black shoulder patches are diagnostic on perched birds.
d. Juvenile is similar to adult, but has rufous band on breast, white tips on flight feathers, upper wing coverts, and back, and narrow dark subterminal band on tail.

2. **Mississippi Kite** (*Ictinia mississippiensis*). Migrant. Field marks are:
a. Adults have gray bodies and black tails and show wide white bars on upper wings and flared sides to tail.
b. Basic I's are juveniles returning in spring after they have molted into adult-like body plumage but have retained flight feathers, tail, and under wing coverts.
c. Juveniles have heavily streaked underparts, a short, wide, pale superciliary above each eye.

3. **Swallow-tailed Kite** (*Elanoides forficatus*). Migrant. Field marks are:
a. Unmistakable shape, especially the long forked tail
b. Bold black and white plumage.
c. Eyes are dark brown.
d. Juveniles have shorter tails.

RARE RAPTORS

1. Short-tailed Hawk (*Buteo brachyurus*).
a. Occurs in light and dark morphs.
b. Light morph with dark cheeks, unmarked underparts, and darker secondaries.
c. Dark morph all dark with pale oval in primaries.

2. **Zone-tailed Hawk** (*Buteo notatus*). Mimics Turkey Vulture.
a. In flight all appear similar to Turkey Vultures.
b. Adults are overall black.
c. Adults up close show yellow cere, white tail bands, and dark band on tailing edge of under wings.
d. Uppersides of closed adult tails show gray, not white, tail bands.
e. Juveniles are similar to adults, but show a variable amount of white spotting on body and neck.
e. Juveniles lack dark band on trailing edge of wings and white band in tail.

3. **Harlan's Hawk** (*Buteo (jamaicensis) harlani*). Field marks are:
a. Adults have gray to rufous tails with a variety of dark markings; no two tails are alike.
b. Most (85%) are dark morph, with blackish plumage and white markings on breast and forehead.
c. Undersides of secondaries are unmarked, mottled, or widely barred.
d. Light-morph adults (10%) appear quite white, with white throats, white breasts and under wing coverts, and white markings on the uppersides.
e. Some adults are intermediate (5%).
f. Rufous in the tail or body, wing shape, and dark patagial marks are field marks shared with Red-tailed Hawk.
g. Dark juveniles show wider, more irregular dark tail bands, with the last band extending downward in a

large spike or hour-glass marking.
h. Light juveniles appear whitish, with white throats and lots of with markings on their uppersides.

To download pdf's of one or more of the four draft presentations on my work on Harlan's Hawk, go to: http://www.globalraptors.org/grin/ResearcherResults.asp?lresID=155
And scroll down to 'Publications' and click on 'pdf' after one of the four

4. **Ferruginous Hawk** (*Buteo regalis*). Dark and light morphs. Main field marks are:
a. Tarsi feathered to toes.
b. Underlings are whitish with narrow dark tips on primaries.
c. White cheeks lacking dark malar are diagnostic.
d. All have pale primary panel on upper wing, but coverts are dark.
e. Adult light morph has dark leg feathers, forming dark "V" on belly on flying birds. Back and upper wing coverts are chestnut.
f. Juveniles have whitish leg feathers. Dark flank marks are visible on flying birds. Base of tail and upper tail coverts are whitish; latter have large dark spotting. Back and upper wing coverts are brown.
g. Dark-morph birds show pale comma at wrist. Adult tail is gray; juvenile tail appears pale with dusky tip on underside.
h. Adult dark morph has rufous breast with whitish mottling.

5. **Prairie Falcon** (*Falco mexicanus*). Main field marks are:
a. Dark axillaries and median and greater underling coverts are diagnostic.
b. White slash behind eye is diagnostic on perched falcons.
c. Wing tips do not reach tail tips on perched falcons.
d. Adults have yellow ceres and orbital rings, pale barring on back and upper wing coverts, **and** streaks, spots, and bars on underparts.
e. Males have darker area on under wing coverts.
f. Juveniles have bluish ceres and orbital rings, unbanded backs, and only streaks on underparts.

6. **Bat Falcon** *(Falco rufigularis)*. Vagrant. One record.
a. Dark hooded large head.
b. Large whitish upper breast, dark belly, and rufous leg feathers.
c. Dark tail with narrow whitish bands.
d. Rufous undertail coverts.
e. Underwings in flight are dark.
f. Adults have narrow white barring on belly, juveniles have rufous barring.

Session VIa: PARTIAL ALBINO & OTHER UNUSUAL PLUMAGES

Three types of albinism occur in diurnal raptors. They are:

1. Albinism. A total lack of pigmentation of feathers, bare skin, eyes, beak, and talons. Eyes are either white, pale yellow or pale blue but not pink. Very rare.

2. Partial Albinism. A lack of pigmentation in a variable amount of feathers, from few to all . Pigment may also be missing from some talons as well. Rare, but regular in Red-tailed Hawk.

3. Dilute plumage. A reduction in melanin (dark pigment) in most feathers, resulting in a washed out appearance. Rare but found in many species. Also called "schizochroism" and "leucism."

Erythrism is an excess of reddish pigment in some feathers. Rare.

Melanism is an excess of melanin. Rare.

Gynandromorph. Condition when raptor shows plumage of both sexes. Obviously restricted to species in which the sexes have different plumages.

Hybrid Falcons. Many are bred in captivity for falconry. Some escape and pose ID problems, as most do not look like either of the parent species.

Other hybrids. A few hybrids are the result of natural breeding between adults of different raptor species. This occurs rarely and has been confirmed by DNA analyses.

Session VIb. REVIEW OF RAPTOR ID

The first problem of raptor field ID is determining the type of raptor in question. The various types and number of species in each type in our area are:

a. Vultures (2). Large, blackish raptors with unfeathered heads.
b. Osprey (1). Large eagle-like raptors with entirely white body.
c. Kites (3). Medium-sized raptors with light wing loading.
d. Harrier (1). Raptors with long wings and tail.
e. Accipiters (2). Raptors with short, rounded wings and long tails.
f. Buteos (6). Raptors with long broad wings and short tails.
g. Eagles (2). Very large raptors with long wings.
h. Falcons (5 + 1 falconid). Raptors with long pointed wings and long tails.