# UC Santa Barbara

**Educational Materials** 

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**Author** Liu, Heather

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#### THE CHEADLE CENTER FOR BIODIVERSITY AND ECOLOGICAL RESTORATION University of California, Santa Barbara, CA 93106



http://www.ccber.ucsb.edu

Book Design/Layout: Heather Liu

Funded by the Associated Students Coastal Fund

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#### Introduction

The UC Santa Barbara campus is fortunate to be surrounded by diverse natural areas that support a wide variety of wildlife. These areas—wetlands, grasslands, coastal sage scrub, and oak woodland—provide habitats necessary for the continued existence of many resident and migrant raptor species. Quite a few of these raptors can be seen on UCSB campus and outlying areas during specific times of the year. Visibility can depend on the time of day and the season. Most birds of prey prefer to hunt at dawn or dusk when their prey are more active, but they can also be seen foraging during the middle of the day. The reference area for this book includes the main UCSB campus, stretching west to Ellwood Mesa and east to the Goleta Slough. The Cheadle Center for Biodiversity and Ecological Restoration (CCBER) is an educational facility within the Office of Research at UCSB. CCBER conducts ecological restoration and natural areas management on over 230 acres of campus open space and performs ecological surveys to quantify the success and benefits of restoration and management activities. CCBER educates students and community members through seminars and internships in restoration ecology and provides environmental consulting for campus administrators and local community groups. An extensive museum collection of plant and animal specimens is permanently housed at CCBER.

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The most common raptors seen in the Santa Barbara area are Red-tailed Hawks, Red-shouldered Hawks, American Kestrels, Turkey Vultures, and White-tailed Kites. The other raptors featured in this field guide are seasonal residents only or transients—species that pass through the campus on their way to breeding or wintering areas elsewhere. Several species of owls reside in Santa Barbara year-round, but they are usually difficult to see during the day.

Birds of prey are very aware of the human observer. By maintaining a safe distance between you and the raptor, you will not only avoid disturbing them, but you will capture their "honest" behaviors—especially important when gathering information during the breeding season.

#### Using this Guide

Each raptor species section begins with a "General Description," which contains identification information, habitat type, flight behavior and vocalizations. This section refers to mature adults of the species unless stated otherwise. These pages are then followed by descriptions of immature birds of the same species. Differences between males and females may be noted here too.

For additional information on raptors and other birds, please visit the Cornell Lab of Ornithology web page: http://www.birds.cornell.edu/.

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The term "raptor" is most commonly used to refer to a group of birds that includes hawks, falcons, eagles, vultures and owls. The term "bird of prey" is also relevant to this group due to their meat-based diet. The most common characteristics shared by raptors are:

- Powerful curved beak for killing and tearing flesh
- Strong feet with talons to grip and kill prey
- Extremely sharp vision

• Nictitating membrane— a clear third eyelid that keeps the eyeball clean, moist and protected while maintaining visibility.

- Reverse sexual dimorphism—females are larger than males.
- In *most*—but not all—raptor species, adults show horizontal barring across the breast and immature individuals show vertical streaks.

Although gulls, terns, kingfishers, herons and other birds also feed on fish, amphibians and small mammals (herons commonly hunt gophers around campus), they primarily hunt and kill prey with their beaks only.

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# Three Main Groups of Diurnal Raptors in Santa Barbara

1) Falcons – Long, tapered wings. Hunt in open air.



2) Accipiters — Short, rounded wings, long tail. Prefer to hunt in woodland habitats, but also present in open country.



3) Buteos — Broad wings, medium-length tail. Hunt in open to moderately-forested habitats.



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# General Descriptions & Flight Behavior



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**Eagles** are very large raptors with long, broad wings and heavy beaks. Eagles will soar on outstretched wings with few wing beats.

They feed on small- to mediumsized mammals (Golden Eagles), or fish and carrion (Bald Eagles).

Bald Eagles are occasionally found on UCSB campus. They formerly nested a few miles west of Goleta.

Bald Eagles and Golden Eagles are not closely related.

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**Accipiters** have short, rounded wings and long tails. These small-

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**Falcons** have narrow, pointed

birds and small rodents.

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They feed on small mammals like

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### **Red-tailed Hawk**

Buteo jamaicensis



Presence: Year-round

#### **General Description**

Most southern California birds are light morphs (brown above with pale undersides). Dark morph hawks are typically dark brown all over. Dark morph individuals have been spotted around UCSB campus.

- Large size, about 18-26" in length.
- The tail of adults is usually pale cinnamon below and dark-red above. They have broad, rounded wings and short, wide tail. Plumage is variable, but typically brown above, pale below, with a strong (immature birds) or weak (in adults) band of streaks across belly. The head is dark and the throat is usually white. Dark patagial bars are present on the underside of the wings. They are common and widespread in more open country and can be seen perched on trees, poles, or fence posts along roadsides or fields.
- Call is a long, single syllable, descending "keeer."

14

### **Red-tailed Hawk**

Buteo jamaicensis



Presence: Year-round

#### **General Description**

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Buteo jamaicensis



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**Red-tailed Hawk** *Buteo jamaicensis* 



#### Immature

- Immature Red-tailed Hawks transition to adulthood at approximately 15 months. They have dark-brown/ light-brown banded tails, with no rusty red color visible. The belly band is often bolder and more distinctive than on adults. A white "bib" on the breast can also be found on many immature individuals.
- Red-tailed Hawks do not exhibit the general pattern of chest barring on adults vs. streaking on immatures.



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Buteo jamaicensis



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**Red-shouldered Hawk** 

Buteo lineatus



Presence: Year-round

#### **General Description**

- Medium-sized hawk, about 15-23" in length.
- Red-shouldered Hawks have reddish forearms and wrists, not "shoulders." Adults are redder on breast and belly with solid orange horizontal bars on chest, head and wing lining. The wings and tail are banded black and white with a very sharp contrast (true at all ages).
- Call is a 2-syllable "kee-yeer," pitched higher than a Redtailed Hawk.
- More frequently seen in riparian and urban edges than Red-tailed Hawk. Typical hunting behavior involves perching in trees and swooping down on unsuspecting prey.

### **Red-shouldered Hawk**

Buteo lineatus



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18

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Buteo lineatus

18



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#### Immature

• When perched, an immature Red-shouldered Hawk can appear to be a robust juvenile Cooper's Hawk but with a shorter tail. The body is a brown color overall, though muted red wrists may be visible. Vertical streaking and spotting can be seen on the throat and chest. Conspicuous black and white tail bands seen on adults usually appear more muted on young hawks, but are still present. Buteo lineatus



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#### 20

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### **Cooper's Hawk**

Accipiter cooperii



#### Presence: Year-round

#### **General Description**

- Similar in size to a crow, about 14-20" long.
- Adults are steely blue-gray above with warm reddish bars on the underside and thick brown bands on the tail. Wings are held horizontally in flight. The middle tail feathers are usually longer than outer tail feathers, giving the tail a rounded appearance when spread. Dark feathers on the crown contrast with brown feathers on the back of the neck, giving the bird a "capped" appearance. The head is large relative to Sharpshinned Hawk when flying, and legs are thicker than those of the Sharp-shinned.
- Variable trait: Tail typically has wider terminal band than Sharp-shinned, although the white can wear off over time.
- Calls mostly during breeding season, "kak-kak-kak-kak-kak" lasting up to 6 seconds.

22

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Accipiter cooperii



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22

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Accipiter cooperii



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**Cooper's Hawk** 

Accipiter cooperii



#### Immature

• An immature Cooper's Hawk has brown wings and back with dark, fine streaks on the breast. An immature Sharp-shinned Hawk has very thick, coarse streaks on the breast (see page 33). The differing tail shapes between the two species still apply. The immature Cooper's Hawk also has yellow eyes instead of the red eyes found on adults.

\*Some small Cooper's Hawks may not be reliably distinguished from larger Sharp-shinned Hawks.

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Cooper's Hawk

Accipiter cooperii



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**Cooper's Hawk** Accipiter cooperii



Presence: rear-round

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Sharp-shinned Hawk

Accipiter striatus



#### **General Description**

- Similar in size to a jay or dove, about 10-14" long.
- An adult Sharp-shinned Hawk has a blue-gray back and wings, long tail with thick brown banding and reddish barring on the breast. The head is small and rounded when perched in vertical stance. Dark feathers on the top of the head continue down the nape of the neck, giving them a "hooded" appearance. The tip of the tail is usually square, showing prominent corners (outer tail feathers are nearly as long as central tail feathers, making the tips level all the way across).
- Call is a series of short, sharp notes, mostly during breeding season "kik-kik-kik-kik."

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Accipiter striatus



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Sharp-shinned Hawk

Accipiter striatus



#### Immature

• Similar to the immature Cooper's Hawk, the immature Sharp-shinned Hawk typically has a brown back and wings with coarse brown streaks on the breast (compare with fine streaks on immature Cooper's Hawk, pg. 26 and 27). They also have yellow eyes instead of the red eyes found on adults.

\*Some large Sharp-shinned Hawks may not be reliably distinguished from smaller Cooper's Hawks.

#### 32

**Sharp-shinned Hawk** 

Accipiter striatus



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### American Kestrel

Falco sparverius



Presence: Year-round

#### **General Description**

- Small falcon; a little smaller than a Mourning Dove, about 7-12" in length.
- Typically, Kestrels have rufous backs and tails, but the colors vary in intensity between sexes. The distinguishing feature for Kestrels is the two dark mustache marks on the face. Males and females can usually be determined by coloring or markings.
- Kestrels are often seen hovering or bobbing their tails when perched. They occupy a wide range of habitats, but are commonly found around grasslands.
- American Kestrels do not conform to the general pattern of chest barring on adults vs. streaking on immatures.
- Call is a shrill, screaming "killy-killy-killy."

34

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Falco sparverius



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# American Kestrel

Falco sparverius



Presence: Year-round

### Males

• The backs of male Kestrels have rufous bars and the wings are blue-gray. The chest is reddish with black spots. The tail is a clean rufous color with a wide, black, sub-terminal band. The colors of males are usually more vibrant than the muted colors of the females.

### Females

• Females have a heavily-barred rufous back, wings and tail. There is very little blue-gray on their heads, and their chests are streaky.

### Immature

• Immatures look similar to adult females, but this can vary greatly.

### 36

# **American Kestrel**

Falco sparverius



Presence: Year-round

### Males

• The backs of male Kestrels have rufous bars and the wings are blue-gray. The chest is reddish with black spots. The tail is a clean rufous color with a wide, black, sub-terminal band. The colors of males are usually more vibrant than the muted colors of the females.

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### Immature

 Immatures look similar to adult females, but this can vary greatly. Falco sparverius



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### Females

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### Immature

• Immatures look similar to adult females, but this can vary greatly.

36

# **American Kestrel**

Falco sparverius



Presence: Year-round

### Males

• The backs of male Kestrels have rufous bars and the wings are blue-gray. The chest is reddish with black spots. The tail is a clean rufous color with a wide, black, sub-terminal band. The colors of males are usually more vibrant than the muted colors of the females.

### Females

• Females have a heavily-barred rufous back, wings and tail. There is very little blue-gray on their heads, and their chests are streaky.

# Immature

• Immatures look similar to adult females, but this can vary greatly.





<image>



# **Peregrine Falcon**

Falco peregrinus



Presence: Fall to Spring

### **General Description**

- Medium-sized raptor, about 14-22" long.
- Wide mustache mark and dark head gives a "helmet head" look to Peregrines. The back and top of the wings are dark blue-black and the chest and belly are light-colored with barring or streaking according to age. The feet and cere the fleshy, waxy covering at the base of the upper beak of some birds—are yellow. Long, slender wings are pointed and wing tips extend to the tip of the tail when perched.
- Call is a series of harsh notes "kack-kack-kack-kack."

A Peregrine Falcon's diet is mainly bird-based, but can include small rodents and bats. Their preferred habitats are open landscapes, usually beaches and estuaries in our area, with or without tall perch sites.

38

# **Peregrine Falcon**

Falco peregrinus



Presence: Fall to Spring

# **General Description**

- Medium-sized raptor, about 14-22" long.
- Wide mustache mark and dark head gives a "helmet head" look to Peregrines. The back and top of the wings are dark blue-black and the chest and belly are lightcolored with barring or streaking according to age. The feet and cere—the fleshy, waxy covering at the base of the upper beak of some birds—are yellow. Long, slender wings are pointed and wing tips extend to the tip of the tail when perched.
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# **Peregrine Falcon**

Falco peregrinus



Presence: Fall to Spring

### **General Description**

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Falco peregrinus



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# **Peregrine Falcon**

Falco peregrinus



Presence: Fall to Spring

### Immature

• Immature Peregrine Falcons are very dark overall with heavily-streaked breasts. The "helmet head" look is characteristic of immatures as well as adults. The cere can be bluish instead of yellow as in adults.

Peregrine Falcons overwinter or pass through UCSB campus on their migrations. They do not stop to breed or nest on campus, but they do nest nearby on the Gaviota coast. The use of DDT in the mid-1900s caused a widespread decline in Peregrine Falcon populations, including those in the Santa Barbara area. A ban on DDT and reintroduction programs nationwide (including Gaviota) have brought the species back from extinction.

40

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Falco peregrinus



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# Merlin

Falco columbarius



Presence: Fall to Spring

# **General Description**

- Small raptor. A little bigger-bodied than a Kestrel but usually with a shorter tail. About 9-12" long.
- The back and wings are dark; breast and belly are streaked and eyebrows are pale. Variations in overall plumage colors do exist and can make identification difficult. A weak mustache mark is usually present, but not with the same boldness as a Peregrine Falcon nor an American Kestrel. Wings are short and pointed. Bee-line flight; seldom soar.
- Call is a rapid accelerating series of high-pitched notes, rising then falling "ki-ki-kee," "kek-kek-kek," and "kleeklee-klee" (which is never heard in the Santa Barbara area).

# Adults

• Plumage is more bluish-gray overall.

42

# Merlin

Falco columbarius



Presence: Fall to Spring

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# Adults

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Merlin

Falco columbarius



Presence: Fall to Spring

### Immature

- Immature Merlins are dark to brownish overall. They tend to have warm, buffy-brown faces and are chubbier than the lean adults. Pale eyebrows and faint mustache marks are also present. They can be easily confused with Sharp-shinned Hawks when perched. However, Merlins have dark eyes, shorter tails, fewer tail bands and pointed wings.
- Merlins overwinter in California, but are not yearround residents. They rely on birds as the primary food source. Their preferred habitats are agricultural lands and estuaries, but they are perfectly comfortable in neighborhoods.

44

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# **Northern Harrier**

Circus cyaneus



Presence: Fall to Spring

### **General Description**

- Medium-sized raptor, about 17-20" long. Large white rump patch is obvious even from great distances. The facial disc gives them an owl-like appearance and funnels sound to their ears, a trait not typically found with other hawks. The wings and tail are long and slender. When soaring or gliding, the wings are raised in a dihedral (see photo on pg. 49). Northern Harriers are often seen foraging close to the ground to surprise prey, which are usually small animals like rodents, birds, reptiles and amphibians. When soaring high, they can be confused with Cooper's Hawks. Their preferred habitats are open fields and estuaries.
- Seldom calls in this area. Males: "Kek-kek-kek;" females and young: "Keee-keee-keee."

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# **Northern Harrier**

Circus cyaneus



Presence: Fall to Spring

### **Adult Male**

- Much smaller than females. They have silvery-gray backs and light underparts. The tips of the outermost primary feathers and the tips of all secondary feathers are black.
- They are seldom seen on the southern coasts of Santa Barbara County.

### **Adult Female**

 Have streaked underparts like immature Cooper's Hawks, but also have bigger, longer wings and big white rump patches. The facial disc is usually outlined with white markings.

### Immature

• Orange underparts and dark head; otherwise look like female adults.

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# White-tailed Kite

Elanus leucurus



### **General Description**

- Medium-sized raptor, a little smaller than a crow, about 12-15" long. Wings are long, narrow, and pointed with the primary feathers almost extending to the tip of tail when perched. The tail is long and white. Face and underside are white with gray back and wings. Viewed from above, large black patches are present on wrists and upper wing coverts; from below, small, round, black patches are found near wrists. Eyes are red.
- No sexual dimorphism; both sexes are the same size.
- Can be mistaken for seagulls when in flight. However, seagulls cannot hover in midair like White-tailed Kites.

50

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# White-tailed Kite

Elanus leucurus



- Hovers extensively while hunting (a technique called "kiting"), usually on open grasslands and savannas. Diet is based on small mammals, predominantly California voles.
- Communal, nocturnal roost sites are relied upon by nonbreeding individuals and probably by all wintering birds in a population. Birds from foraging areas as far as 7 km from a roost site converge. Such sites may be in citrus or avocado groves, willows, oaks, and rarely on the ground.
- Courtship displays (see image on right) involve an aerial exchange, where the female flies up to meet the male, turns upside-down, and grasps the prey.
- Call varies from short, whistled notes to harsh, grating sounds, "eegraak," "keep-keep-keep," "plee-wit, pleewitt."

52

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Elanus leucurus

Kites

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# White-tailed Kite

Elanus leucurus



### Immature

• An immature bird has rusty-colored splotches on the head, breast and back. Back and wing coverts are gray with white-tipped (scalloped) feathers. Eyes are orange-red instead of being solid red.

Elanus leucurus



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# **Turkey Vulture**

Cathartes aura

# Vultures

Presence: Year-round

# **General Description**

The only vulture likely to be seen in Santa Barbara.

- Large bodied bird, 25-32" long with roughly 5.5 foot wingspan.
- Turkey Vultures have naked, red heads with strong, moderately curved beaks. Their plumage is dark brown-black except for silvery flight feathers when viewed from beneath. They soar with long broad wings in a pronounced dihedral (illustrated on page 59), wobbling slightly in flight. Turkey Vultures are carrion feeders and do not have feet well-adapted for grasping.
- They do not usually vocalize.
- Turkey Vultures roost communally at night. Their roosts are scattered around town, usually in eucalyptus groves.

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# Turkey Vulture

Cathartes aura

Vultures

### Immature

• Immature Turkey Vultures can be distinguished by black heads that turn dark red upon maturity. The fringes of their feathers are buff-colored and the flight feathers are of equal age.

**Vultures** 

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Cathartes aura



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# Loggerhead Shrike

Lanius Iudovicianus



### **General Description**

Not a raptor, but a predatory songbird with raptorlike traits.

- Smaller than scrub jay, about 7-9" long.
- An adult Loggerhead Shrike has a distinctive black mask across their eyes. The throat is white and the chest is a whitish-gray. It has a gray back and a medium-length tail. The stout black beak is hooked at the tip. The wings are black with white markings and the tail is black with white outer feathers.
- Call is a series of low warbles or harsh, squeaky notes, "queedle-queedle," "shack-shack."

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# Loggerhead Shrike

Lanius Iudovicianus



### Immature

• Immature Loggerhead Shrikes are similar to adults, but duller gray and with faint gray bars on their chests and backs.

### **Additional Information**

• Loggerhead Shrikes have rapid wingbeats that distinguishes them from Northern Mockingbirds. They use their hooked beaks to kill insects, small reptiles and amphibians, birds and rodents. Shrikes also impale their prey on thorns, twigs or barbed wire to hold them securely while it feeds. This has earned them the term, "Butcher Bird." However, this behavior is rarely seen in the area. They can be found in a variety of open and semi-open habitats, ranging from grassland to coastal sage scrub and agricultural areas.

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# **Great Horned Owl**

Bubo virginianus



### **General Description**

- Large owl, 18-25" in length. Wingspan up to 5 feet.
- Great Horned Owls display prominent "ear" tufts and very large yellow eyes. Their plumage is mottled with various shades of browns, blacks and grays, with streaked gray-brown breasts and white throats. Nocturnal.
- These powerful owls prey on mammals (including skunks), reptiles and birds; they will also attack and take down other raptors, including Red-tailed Hawks and Barn Owls.
- Call is a deep hooting "hoo-h'HOO--hoo-hoo." While the female is bigger than the male, the male's voice is deeper. This is easier to determine when both are calling.

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- Immature owls look similar to adults, but are typically duller gray and with faint bars on their chests and backs.
- Fledglings do not have noticeable ear tufts and are still covered with down when they leave the nest.



**Owls** Presence: Year-round

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### Immature

- Immature owls look similar to adults, but are typically duller gray and with faint bars on their chests and backs.
- Fledglings do not have noticeable ear tufts and are still covered with down when they leave the nest.









# Barn Owl

Tyto alba



### Presence: Year-round

### **General Description**

- Medium-sized owl, 13-16" in length. Wingspan up to 4 feet.
- White, heart-shaped face with dark eyes is distinctive from other owls. Plumage is tawny on the back and flecked with white and black spots. Underside is mainly white and legs are long.
- Hunts small mammals at night by flying low over the ground. Nests are made in cavities of trees and cliffs and within buildings. Prefers habitats that are open, like fields, estuaries and deserts.
- Call is infrequent, but usually a drawn out, rasping screech, "cssssshhh," "shrreeee-srreee."

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# Barn Owl

Tyto alba



#### Males

• Males are generally paler in color than the female, with less spotting on the chest.

### Females

• Female Barn Owls tend to have reddish chests with more spots than the male. A large number of spots may indicate a healthy female to a potential mate.

### Immature

• Immature birds look similar to adults, but with more natal down that is grayish-white or tawny in color.

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#### **General Description**

- Large raptor, about 20-22" in length with a wingspan up to 6 feet.
- Ospreys have distinctive black eyestripes that contrast with their white crowns and foreheads. Their eyes are yellow and beaks are sharply-hooked. Breast and belly are white, sometimes with faint banding on the breast. The back and wings are black to dark brown. Wings are long, with wingtips held slightly backwards, like an "M." The underside of the wings have dark wrists and secondaries. The legs and feet are light gray.
- Call is a high-pitched "chewk-chewk."

**Osprey** Pandion haliaetus



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## Osprey

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Pandion haliaetus

Osprey

Presence: Winter

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# Osprey

Pandion haliaetus



#### Presence: Winter

#### Males & Females

• Males tend to have clean white chests and females tend to have streaked breast feathers around the throat, but this is highly variable and not always a reliable indicator.

### Additional Information

 Fish makes up 99% of an Osprey's diet. Barbed pads on the soles of its feet and reversible toes help it grip slippery prey. When an Osprey takes a large fish to its nest, it carries the fish headfirst to make it as aerodynamic as possible. Ospreys can be found around marshes, ponds, lakes and estuaries.

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# Osprey

Pandion haliaetus



#### Immature

• Immature Ospreys look similar to adults, but with whitish scaling on back feathers that fade with maturity. Their crowns can be streaky, and their necks can show rusty brown patches similar to those seen on immature White-tailed Kites. Fewer markings are seen on the chest, and immature Ospreys typically have orange eyes instead of the yellow found in adults.

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