

= Red @-@ tailed hawk =

The red @-@ tailed hawk ( *Buteo jamaicensis* ) is a bird of prey , one of three species colloquially known in the United States as the " chickenhawk , " though it rarely preys on standard sized chickens . It breeds throughout most of North America , from western Alaska and northern Canada to as far south as Panama and the West Indies , and is one of the most common buteos in North America . Red @-@ tailed hawks can acclimate to all the biomes within their range . There are fourteen recognized subspecies , which vary in appearance and range . It is one of the largest members of the genus *Buteo* in North America , typically weighing from 690 to 1 @, @ 600 g ( 1 @. @ 5 to 3 @. @ 5 lb ) and measuring 45 ? 65 cm ( 18 ? 26 in ) in length , with a wingspan from 110 ? 145 cm ( 43 ? 57 in ) . The red @-@ tailed hawk displays sexual dimorphism in size , with females averaging about 25 % heavier than males . The bird is sometimes referred to as the red @-@ tail for short , when the meaning is clear in context .

The subspecies Harlan 's hawk ( *B. j. harlani* ) is sometimes considered a separate species ( *B. harlani* ) .

The red @-@ tailed hawk occupies a wide range of habitats and altitudes , including deserts , grasslands , coniferous and deciduous forests , agricultural fields and urban areas . It lives throughout the North American continent , except in areas of unbroken forest or the high arctic . It is legally protected in Canada , Mexico and the United States by the Migratory Bird Treaty Act .

Because they are so common and easily trained as capable hunters , the majority of hawks captured for falconry in the United States are red @-@ tails . Falconers are permitted to take only passage hawks ( which have left the nest , are on their own , but are less than a year old ) so as to not affect the breeding population . Adults , which may be breeding or rearing chicks , may not be taken for falconry purposes and it is illegal to do so . Passage red @-@ tailed hawks are also preferred by falconers because these younger birds have not yet developed the adult behaviors which would make them more difficult to train .

= = Description = =

As is the case with many raptors , the red @-@ tailed hawk displays sexual dimorphism in size , as females are up to 25 % larger than males . As is typical in large raptors , frequently reported mean body mass for Red @-@ tailed Hawks are somewhat higher than expansive research reveals . Part of this weight is highly seasonally variable and due to clinal variation , male red @-@ tailed hawks may weigh from 690 to 1 @, @ 300 g ( 1 @. @ 52 to 2 @. @ 87 lb ) and in females between 900 and 2 @, @ 000 g ( 2 @. @ 0 and 4 @. @ 4 lb ) . However , research from nine studies occurring at migration sites in the United States and two breeding studies , one from the smallest race in Puerto Rico , the other from larger races in Wisconsin show that males weigh a mean of 837 g ( 1 @. @ 845 lb ) and females weigh a mean of 1 @, @ 040 @. @ 7 g ( 2 @. @ 294 lb ) , about 15 % lighter than prior species @-@ wide published weights . The heaviest surveyed weights came from migrants in Cape May , New Jersey , where females weighed a mean of 1 @, @ 278 g ( 2 @. @ 818 lb ) , males a mean of 990 @. @ 8 g ( 2 @. @ 184 lb ) . The lightest were from the breeding population in forest openings of Puerto Rico , where the females and males weighed an average of 1 @, @ 023 g ( 2 @. @ 255 lb ) and 795 g ( 1 @. @ 753 lb ) , respectively , also the highest size sexual dimorphism in the species . Size variation in body mass reveals that the red @-@ tailed hawks typically varies only a modest amount , racial variation in average weights of great horned owls show that mean body mass is nearly twice ( the heaviest race is about 36 % heavier than the lightest known race on average ) as variable as that of the hawk ( where the heaviest race is only just over 18 % heavier on average than the lightest ) . Males can reportedly measure 45 to 60 cm ( 18 to 24 in ) in total length , females measuring 48 to 65 cm ( 19 to 26 in ) long . The wingspan can range from 105 to 141 cm ( 41 to 56 in ) and , in the standard scientific method of measuring wing size , the wing chord is 325 @. @ 1 ? 444 @. @ 5 mm ( 12 @. @ 80 ? 17 @. @ 50 in ) long . The tail measures 188 to 258 @. @ 7 mm ( 7 @. @ 40 to 10 @. @ 19 in ) in length . The exposed culmen was reported to range from 21 @. @ 7 to 30 @. @ 2 mm ( 0 @. @ 85 to 1 @. @ 19 in ) and the tarsus averaged 74 @. @ 7 ? 95

@. @ 8 mm ( 2 @. @ 94 ? 3 @. @ 77 in ) . The middle toe ( excluding talon ) can range from 38 @. @ 3 to 53 @. @ 8 mm ( 1 @. @ 51 to 2 @. @ 12 in ) , with the hallux @-@ claw ( the talon of the rear toe , which has evolved to be the largest in accipitrids ) measuring from 24 @. @ 1 to 33 @. @ 6 mm ( 0 @. @ 95 to 1 @. @ 32 in ) in length .

Red @-@ tailed hawk plumage can be variable , depending on the subspecies and the region . These color variations are morphs , and are not related to molting . The western North American population , *B. j. calurus* , is the most variable subspecies and has three color morphs : light , dark , and intermediate or rufus . The dark and intermediate morphs constitute 10 ? 20 % of the population .

Though the markings and hue vary across the subspecies , the basic appearance of the red @-@ tailed hawk is consistent . Overall , this species is blocky and broad in shape , often appearing ( and being ) heavier than other Buteos of similar length . A whitish underbelly with a dark brown band across the belly , formed by horizontal streaks in feather patterning , is present in most color variations . Especially in younger birds , the underside may be otherwise covered with dark brown spotting . The red tail , which gives this species its name , is uniformly brick @-@ red above and light buff @-@ orange below . The bill is short and dark , in the hooked shape characteristic of raptors , and the head can sometimes appear small in size against the thick body frame . They have a relatively short , broad tails and thick , chunky wings . The cere , the legs , and the feet of the red @-@ tailed hawk are all yellow .

Immature birds can be readily identified at close range by their yellowish irises . As the bird attains full maturity over the course of 3 ? 4 years , the iris slowly darkens into a reddish @-@ brown hue . In both the light and dark morphs , the tail of the immature red @-@ tailed hawk is patterned with numerous darker bars .

## == Taxonomy ==

The red @-@ tailed hawk is a member of the genus *Buteo* , a group of medium @-@ sized raptors with robust bodies and broad wings . Members of this genus are known as buzzards in Europe , but hawks in North America .

There are at least 14 recognized subspecies of *Buteo jamaicensis* , which vary in range and in coloration :

*B. j. jamaicensis* , the nominate subspecies , occurs in the northern West Indies , including Jamaica , Hispaniola , Puerto Rico and the Lesser Antilles but not the Bahamas or Cuba . El Yunque National Forest , Puerto Rico holds the highest known density of red @-@ tailed hawks anywhere . The bird is referred to as " Guaraguao " in the island .

*B. j. alascensis* breeds ( probably resident ) from southeastern coastal Alaska to the Queen Charlotte Islands and Vancouver Island in British Columbia .

*B. j. borealis* group ( eastern red @-@ tailed hawk ) breeds from southeast Canada and Maine south through eastern Texas and east to northern Florida . It winters from southern Ontario east to southern Maine and south to the Gulf coast and Florida .

*B. j. calurus* ( western red @-@ tailed hawk ) breeds from central interior Alaska , through western Canada south to Baja California . It winters from southwestern British Columbia southwest to Guatemala and northern Nicaragua . Paler individuals of northern Mexico may lack the dark wing marking .

*B. j. costaricensis* is resident from Nicaragua to Panama . This subspecies is dark brown above with cinnamon flanks , wing linings and sides , and some birds have rufous underparts . The chest is much less heavily streaked than in northern migrants ( *B. j. calurus* ) to Central America .

*B. j. fuertesi* ( southwestern red @-@ tailed hawk ) breeds from northern Chihuahua to southern Texas . It winters in Arizona , New Mexico , and southern Louisiana . The belly is unstreaked or only lightly streaked , and the tail is pale .

*B. j. fumosus* , Islas Marías , Mexico

*B. j. hadropus* , Mexican Highlands

*B. j. harlani* ( Harlan 's red @-@ tailed hawk , sometimes classified as its own species , *B. harlani* ,

Harlan's hawk ) is markedly different from all other red @-@ tails . In both color morphs , the plumage is blackish and white , lacking warm tones ( save the tail ) . The tail may be reddish , dusky , whitish , or gray and can be longitudinally streaked , mottled , or barred . Shorter primaries result in wingtips that don 't reach the tail in perched birds . It breeds in Alaska and northwestern Canada and winters from Nebraska and Kansas to Texas and northern Louisiana . This population may well be a separate species .

B. j. kemsiesi is a dark subspecies resident from Chiapas to Nicaragua . The dark wing marking may not be distinct in paler birds .

B. j. kriderii ( Krider's red @-@ tailed hawk ) is paler than other red @-@ tails , especially on the head ; the tail may be pinkish or white . In the breeding season , it occurs from southern Alberta , southern Saskatchewan , southern Manitoba , and extreme western Ontario south to south @-@ central Montana , Wyoming , western Nebraska , and western Minnesota . In winter , it occurs from South Dakota and southern Minnesota south to Arizona , New Mexico , Texas and Louisiana .

B. j. socorroensis , Socorro Island , Mexico

B. j. solitarius , Bahamas and Cuba

B. j. umbrinus occurs year @-@ round in peninsular Florida north to Tampa Bay and the Kissimmee Prairie . It is similar in appearance to calurus

The four island forms , jamaicensis , solitarius , socorroensis , and fumosus , do not overlap in range with any other subspecies .

= = Distribution and habitat = =

The red @-@ tailed hawk is one of the most widely scattered hawks in the Americas . It breeds from central Alaska , the Yukon , and the Northwest Territories east to southern Quebec and the Maritime Provinces of Canada , and south to Florida , the West Indies , and Central America . The winter range stretches from southern Canada south throughout the remainder of the breeding range .

Its preferred habitat is mixed forest and field , with high bluffs or trees that may be used as perch sites . It occupies a wide range of habitats and altitudes , including deserts , grasslands , coastal regions , mountains , foothills , coniferous and deciduous woodlands , tropical rainforests , agricultural fields and urban areas . It is second only to the peregrine falcon in the use of diverse habitats in North America . It lives throughout the North American continent , except in areas of unbroken forest or the high Arctic .

The red @-@ tailed hawk is widespread in North America , partially due to historic settlement patterns , which have benefited it . The clearing of forests in the Northeast created hunting areas , while the preservation of woodlots left the species with viable nest sites . The increase in trees throughout the Great Plains during the past century due to fire suppression and tree planting facilitated the western range expansion of the red @-@ tailed hawk as well as range expansions of many other species of birds . The construction of highways with utility poles alongside treeless medians provided perfect habitat for perch @-@ hunting . Unlike some other raptors , the red @-@ tailed hawk are seemingly unfazed by considerable human activity and can nest and live in close proximity to large numbers of humans . Thus , the species can also be found in cities , where common prey such as rock pigeons and brown rats may support their populations . One famous urban red @-@ tailed hawk , known as " Pale Male " , became the subject of a non @-@ fiction book , Red @-@ Tails in Love : A Wildlife Drama in Central Park , and is the first known red @-@ tail in decades to successfully nest and raise young in the crowded New York City borough of Manhattan .

= = Behavior = =

= = Flight = = =

In flight , this hawk soars with wings often in a slight dihedral , flapping as little as possible to conserve energy . Active flight is slow and deliberate , with deep wing beats . In wind , it occasionally hovers on beating wings and remains stationary above the ground . When soaring or flapping its wings , it typically travels from 32 to 64 km / h ( 40 mph ) , but when diving may exceed 190 km / h ( 120 mph ) .

#### == = Vocalization == =

The cry of the red @-@ tailed hawk is a two to three second hoarse , rasping scream , described as kree @-@ eee @-@ ar , that begins at a high pitch and slurs downward . This cry is often described as sounding similar to a steam whistle . The red @-@ tailed hawk frequently vocalizes while hunting or soaring , but vocalizes loudest in annoyance or anger , in response to a predator or a rival hawk 's intrusion into its territory . At close range , it makes a croaking " guh @-@ runk " . Young hawks may utter a wailing klee @-@ uk food cry when parents leave the nest . The fierce , screaming cry of the red @-@ tailed hawk is frequently used as a generic raptor sound effect in television shows and other media , even if the bird featured is not a red @-@ tailed hawk .

#### == = Diet == =

The red @-@ tailed hawk is carnivorous , and an opportunistic feeder . Its diet is mainly small mammals , but it also includes birds and reptiles . Prey varies with regional and seasonal availability , but usually centers on rodents , comprising up to 85 % of a hawk 's diet . Most commonly reported prey types include mice , including both native *Peromyscus* species and house mice ; gophers , voles , chipmunks , ground squirrels and tree squirrels . Additional prey ( listed by descending likelihood of predation ) include lagomorphs , shrews , bats , pigeons , quail , corvids , waterfowl , other raptors , reptiles , fish , crustaceans , insects and earthworms . Where found in Caribbean islands , red @-@ tailed hawks prey mostly on reptiles such as snakes and lizards , since these are perhaps the most predominant native land animals of that region . Prey specimens can range to as small a size as beetles and worms . However , they can also prey on marmots , white @-@ tailed jackrabbits , or female wild turkey , all of which are at least easily double the weight of most red @-@ tails . Although they prefer to feed on fresh prey they 've killed themselves , these hawks are not above occasionally consuming carrion . During winter in captivity , an average red @-@ tail will eat about 135 g ( 4 @. @ 8 oz ) daily .

The red @-@ tailed hawk commonly employs one of two hunting techniques . Often , they scan for prey activity from an elevated perch site , swooping down from the perch to seize the prey . They also watch for prey while flying , either capturing a bird in flight or pursuing prey on the ground until they can pin them down in their talons . Red @-@ tailed hawks , like some other raptors , have been observed to hunt in pairs . This may consist of stalking opposites sides of a tree , in order to surround a tree squirrel and almost inevitably drive the rodent to be captured by one after being flushed by the other hawk . They are opportunistically attracted to conspicuous meals , such as displaying male red @-@ winged blackbirds .

The great horned owl occupies a similar ecological niche nocturnally to the red @-@ tail , taking similar prey . Competition may occur between the hawk and owl species during twilight , although the differing nesting season and activity times usually results in a lack of direct competition . Although the red @-@ tail 's prey is on average larger ( due in part to the scarcity of diurnal squirrels in the owl 's diet ) , the owl is an occasional predator of red @-@ tailed hawks themselves , of any age , while the hawks are not known to predate adult great horned owls . Other competitors include other large *Buteo* species such as Swainson 's hawks and rough @-@ legged hawks , as well as the northern goshawk , since prey and foraging methods of these species occasionally overlap . Hawks have been observed following American badgers to capture prey they flush and the two are considered potential competitors . Competition over carcasses may occur with American crows , and several crows working together can displace a hawk . Larger raptors , such as eagles and ferruginous hawks , may steal hawk kills .

## == = Reproduction == =

The red @-@ tailed hawk reaches sexual maturity at two years of age . It is monogamous , mating with the same individual for many years . In general , the red @-@ tailed hawk will only take a new mate when its original mate dies . The same nesting territory may be defended by the pair for years . During courtship , the male and female fly in wide circles while uttering shrill cries . The male performs aerial displays , diving steeply , and then climbing again . After repeating this display several times , he sometimes grasps her talons briefly with his own . Courtship flights can last 10 minutes or more . Copulation often follows courtship flight sequences , although copulation frequently occurs in the absence of courtship flights .

In copulation , the female , when perched , tilts forward , allowing the male to land with his feet lodged on her horizontal back . The female twists and moves her tail feathers to one side , while the mounted male twists his cloacal opening around the female 's cloaca . Copulation lasts 5 to 10 seconds and during pre @-@ nesting courtship in late winter or early spring can occur numerous times each day .

In the same period , the pair constructs a stick nest in a large tree 4 to 21 m ( 13 to 69 ft ) off the ground or on a cliff ledge 35 m ( 115 ft ) or higher above the ground , or may nest on man @-@ made structures . The nest is generally 71 to 97 cm ( 28 to 38 in ) in diameter and can be up to 90 cm ( 3 @. @ 0 ft ) tall . The nest is constructed of twigs , and lined with bark , pine needles , corn cobs , husks , stalks , aspen catkins , or other plant lining matter .

Great horned owls compete with the red @-@ tailed hawk for nest sites . Each species has been known to kill the young and destroy the eggs of the other , but in general , both species nest in adjacent or confluent territories without conflict . Great horned owls are incapable of constructing nests and typically expropriate existing red @-@ tail nests . Great horned owls begin nesting behaviors much earlier than red @-@ tails , often as early as December . Red @-@ tails are therefore adapted to constructing new nests when a previous year 's nest has been overtaken by owls or otherwise lost . New nests are typically within a kilometer or less of the previous nest . Often , a new nest is only a few hundred meters or less from a previous one . Being a large predator , most predation of these hawks occurs with eggs and nestlings , which are taken by owls , corvids and raccoons .

A clutch of one to three eggs is laid in March or April , depending upon latitude . Clutch size depends almost exclusively on the availability of prey for the adults . Eggs are laid approximately every other day . The eggs are usually about 60 mm × 47 mm ( 2 @. @ 4 in × 1 @. @ 9 in ) . They are incubated primarily by female , with the male substituting when the female leaves to hunt or merely stretch her wings . The male brings most food to the female while she incubates . After 28 to 35 days , the eggs hatch over 2 to 4 days ; the nestlings are altricial at hatching . The female broods them while the male provides most of the food to the female and the young , which are known as eyasses ( pronounced " EYE @-@ ess @-@ ez " ) . The female feeds the eyasses after tearing the food into small pieces . After 42 to 46 days , the eyasses begin to leave the nest . The fledging period follows , with short flights engaged in , after another 3 weeks . About 6 to 7 weeks after fledging , the young begin to capture their own prey . Shortly thereafter , when the young are around 4 months of age , they become independent of their parents . However , the hawks do not generally reach breeding maturity until they are around 3 years of age . In the wild , red @-@ tailed hawks have lived for at least 25 years , for example , Pale Male was born in 1990 , and in Spring 2014 is still raising eyasses . The oldest captive hawk of this species was at least 29 and a half years of age .

## == = Relationship with humans == =

## == = Use in falconry == =

The red @-@ tailed hawk is a popular bird in falconry , particularly in the United States where the sport of falconry is tightly regulated and where red @-@ tailed hawks are both widely available and allowed to novice falconers . Red @-@ tailed hawks are highly tameable and trainable , with a more social disposition than all other falcons or hawks other than the Harris 's hawk . They are also long lived and highly disease resistant , allowing a falconer to maintain a red @-@ tailed hawk as a hunting companion for many years . There are fewer than 5 @,@ 000 falconers in the United States , so despite their popularity any effect on the red @-@ tailed hawk population , estimated to be about one million in the United States , is negligible .

Not being as swift as falcons or accipiters , red @-@ tailed hawks are not the most effective of bird hawks and are usually used against ground game such as rabbits and squirrels . However , some individuals may learn to ambush birds on the ground with a swift surprise approach and capture them before they can accelerate to full speed and escape . Some have even learned to use a falcon @-@ like diving stoop to capture challenging game such as pheasants . In the course of a typical hunt , a falconer using a red @-@ tailed hawk most commonly releases the hawk and allows it to perch in a tree or other high vantage point . The falconer , who may be aided by a dog , then attempts to flush prey by stirring up ground cover . A well @-@ trained red @-@ tailed hawk will follow the falconer and dog , realizing that their activities produce opportunities to catch game . Once a raptor catches game , it does not bring it back to the falconer . Instead , the falconer must locate the bird and its captured prey , " make in " ( carefully approach ) and trade the bird its kill in exchange for a piece of offered meat .

= = = Feathers and Native American use = = =

The feathers and other parts of the red @-@ tailed hawk are considered sacred to many American indigenous people and , like the feathers of the bald eagle and golden eagle , are sometimes used in religious ceremonies and found adorning the regalia of many Native Americans in the United States ; these parts , most especially their distinctive tail feathers , are a popular item in the Native American community . As with the other two species , the feathers and parts of the red @-@ tailed hawk are regulated by the eagle feather law , which governs the possession of feathers and parts of migratory birds .

= = = Historical works = = =

John James Audubon . The Red @-@ tailed Hawk in Ornithological Biography vol . 1 ( 1831 ) , pp. 265 ? 272 ( also on WikiSource , see right ) . The Red @-@ tailed Buzzard in The Birds of America vol . 1 ( 1840 ) , pp. 32 ? 38 . [ The 1840 edition appears to be a combination of the two companion works from early 1830s : the plates from Birds of America and the descriptions from Ornithological Biography . ]

John James Audubon . The Black Warrior in Ornithological Biography vol . 1 ( 1831 ) , pp. 441 ? 443 ( also on WikiSource , see right ) . Harlan 's Buzzard in The Birds of America vol . 1 ( 1840 ) , pp. 38 ? 40 .

= = = Live nest cameras = = =

Live nestcam at Cornell University  
PMC @-@ Sierra HawkCam  
Live nestcam at the University of Wisconsin , Madison