

Wisconsin Wildlife *Fast Facts*

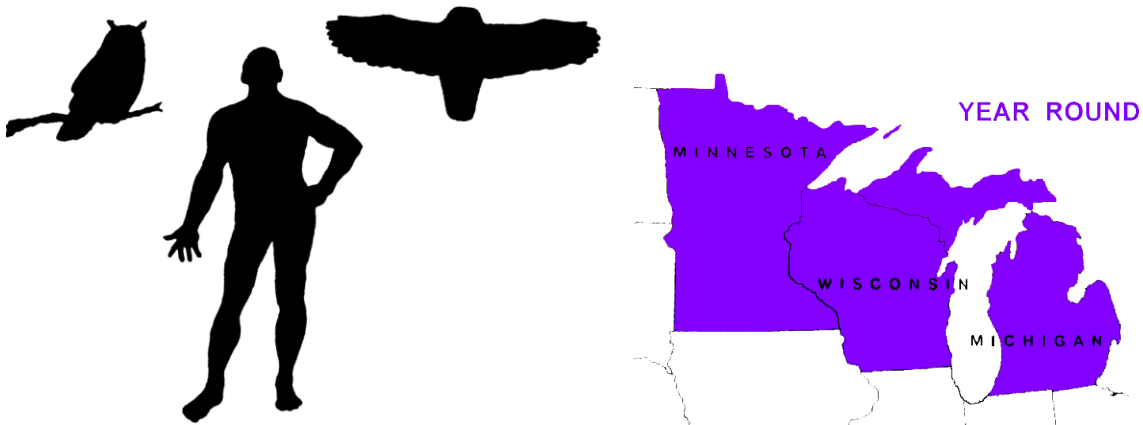
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Eagle Owls and Hen Hawks

The great horned owl and the red-tailed hawk

Since the beginning of written history, raptors have held us in an extraordinary state of fascination. They have been revered as omens of good fortune and even worshiped as gods. They have been feared as harbingers of death and regarded with contempt as the merciless destroyers of poultry and game.

I have selected two common representatives of this rather large fraternity of birds, which the reader will be most familiar with. Both birds compete for the same food, shelter and living space. One bird is largely dependent on the other for a nest site. Both birds have managed to coexist in a perpetual state of tentative truce, made possible (only) by maintaining distinctly different periods of activity.



Great Horned Owl *Bubo virginianus*
(horned owl) (from Virginia)

Synonyms:

Horned owl, big hoot owl, cat owl, tiger owl, dusky owl, Virginia owl, Virginia horned owl, eagle owl, big-eared owl, O-tow'-i-ge-o-ko'-ko-ko-o' (Chippewa).

Description:

The only form of eagle owl in the western hemisphere.

A very large and powerful bird.

Sexes similar but the female is larger (reverse sexual dimorphism - as in all raptors).

Length: 24" Wingspread: 60" Weight: to 1800 grams

Plumage: Cryptic, mottled (tree bark camo) patterns of tawny-brown, dusky, gray, black and white.

Bill and talons are steel black. Eyes (iris) lemon yellow.

No other large North American owl has ear tufts.

Voice:

Typically a series of four or five rich, deep, resonant, low-pitched, dove-like, booming hoots.

Excited birds may emit a short, sharp barking note.

Hungry juveniles emit a piercing, wheezy screech in late summer/early fall (food-begging).

Range:

A vast distribution (darn-near pole to pole and coast to coast!)- ranging from Western Alaska & Yukon (just below tree line), east across forest limits of Canada to Labrador and Newfoundland, south throughout all of the continental United States, Mexico, Central and South America to Tierra del Fuego.

Wisconsin status:

Locally common and widely distributed statewide.

Present, but less common in large tracts of mature (or interior) forest – (where the barred owl becomes the more prominent large owl).

Owl evolution:

The fossil record for owls is one of the longest among all groups of modern birds. They are thought to have diverged from ancestral *nightjars as far back as 70 - 80 MYA. Several families have been dated to the Paleocene epoch (58MYA).

A period of rapid adaptive radiation occurred in the Eocene (36-57 MYA), resulting in the establishment of four major families- three, which are now extinct and the present family Tytonidae (barn and bay owls).

It appears that the tytonids were the first owls to evolve. They became highly diversified in Europe during this period. The Strigidae (typical owls) would later appear in the lower Miocene (22-24 MYA). During the Pleistocene (1.6 MYA -10,000 YA) several different owl lineages (all over the world) developed gigantism. In Cuba, there was a giant barn owl (*Ornimegalonyx oteroi*) which was the size of a bald eagle.

The great horned owl appears to be closely related to the Eurasian eagle owl (*Bubo bubo*). The distribution and appearance of the two species strongly suggests a common ancestry.

* The ancestral relationship with Caprimulgiformes (nightjars) is still somewhat unclear - more evidence is needed.

Habitat:

Virtually anywhere, provided some trees or tall shrubs are present for cover.
All forest types, savannah, prairie, mountains, deserts, & suburban (developed) areas.
The largest range of habitats for any owl species.
Any location which offers a nest site, a roost site and a hunting area.
Conifers (esp. large pines & hemlocks) are favored over deciduous trees.
Prefers mature, mixed, "patchy" timber near water.

Territory and home range:

One nesting pair per 300 acres would be considered "saturated range".
More typically, one pair per 2 square miles in most high-quality habitats.
Adult owls remain near their nesting area as year round permanent residents
Individual pairs have been known to remain on territory for over 8 consecutive years.

Movements:

Largely stationary, except some birds from northern Canada may irrupt (emigrate) south during especially harsh winters or during cyclic lows in rodent or lagomorph (hare) populations.

Habits:

A sedentary species that usually remains on territory all year.
Some northern birds appear to be more mobile (prob. due to fluctuating, cyclic prey).
Juveniles move about continually until they establish themselves.
Remains hidden and inconspicuous during the day, roosting in a dense canopy.
When disturbed, takes off silently and proceeds rapidly to an alternate roost site.
Hunts primarily at night, emerging at dusk and retiring to roost before sunrise.

Diet:

Virtually any animal from the size of a cricket to a raccoon.
Rabbits, hares and rodents are a staple item in most areas.
Birds to the size of a turkey.
Feral cats, skunks and opossums are fair game for this owl.

Special adaptations & limitations:

The “live anywhere and eat anything owl” A generalist with few limitations.
Due to the exceptionally flexibility of its atlanto-occipital joint (neck) this owl can rotate its head beyond 180° – thus enabling it to easily and quickly view its entire surroundings from the same stationary position.
Exceptional hearing and sight designed for low light conditions.
The most powerful feet of all North American raptors (including eagles).

Reproduction:

The quintessential vanguard of breeding bird phenology (almost).
Owls do not build nests. They usurp existing ones or make-do with any suitable structure or substrates within their domain.
Classic sites for horned owls include large stick nests (esp. red-tails) and broken tops of large snags. Small caves in West. Rarely (if ever) within deep tree cavities.
Initiates courtship (WI) in early January.
Males are usually talking constantly right after Christmas.
Incubation is often underway by late- February (earlier in south).
Two to three eggs (rarely 5) are incubated for 33-35 days.
The male hunts for the female during incubation and early brooding.
He usually roosts within 75meters (250') of the nest tree. (Look for a big pine.)
Young fledge (prematurely) at 5-6 weeks. Capable of flight at ten weeks.
Young often remain with parents (harass & food-beg) until October (WI) and sometimes as late as January. The onset of adult courtship puts an end to this.

Survival & life span:

May exceed 40 years in captivity.
Starvation eventually claims most horned owls- esp. young, inexperienced birds.

Mortality, Disease and parasites:

Few animals would tangle with a great horned owl.
A territorial eagle or large hawk may injure or kill one- but the tables may quickly turn.
(This owl is fully capable of killing an eagle.)

Aspergillosis – a fungal disease which attacks the respiratory system.

Trichomoniasis (frounce) – a protozoan parasite acquired by eating infected pigeons.

Coccidiosis – A protozoan parasite of the digestive tract.

Minor parasites include tapeworms, roundworms, intestinal worms, lice, mites, hippoboscids, and miasis ear maggots (esp. nestlings).

Bumblefoot - a bacterial infection of the feet (often captivity-related).

Avian cholera – a bacterium *Pasteurella multocida*.

Avian Salmonellosis – A large group of bacterial disease agents.

Northern (boreal forest) horned owls, when stressed by crashing snowshoe hare populations, appear to be susceptible to mortality from black flies (blood loss anemia and transmission of blood parasite *Leucocytozoon* spp.).

Damage & abatement:

Most damage claims have historically involved free-range poultry yards.

A large, dead and headless bird is the “calling-card” of a horned owl visitor.

This owl continues to be the primary cause of most raptor damage complaints.

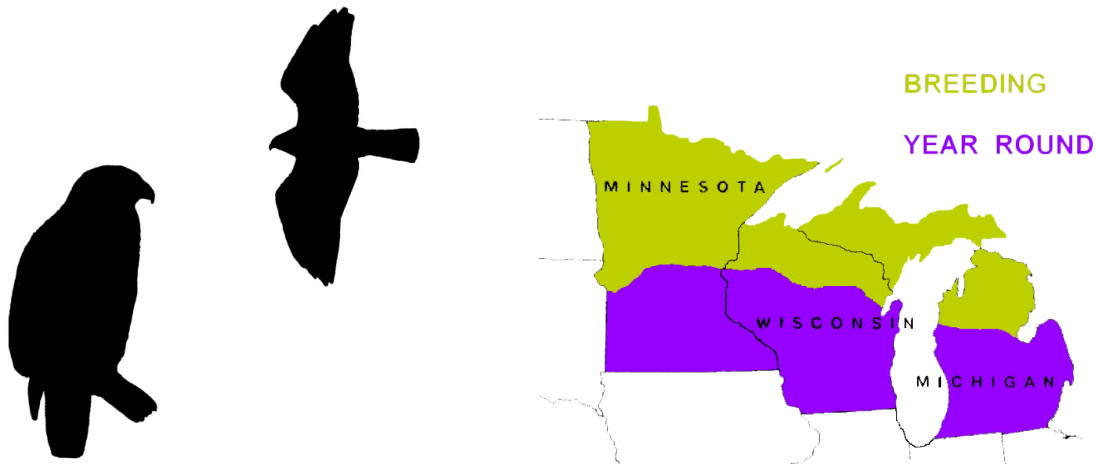
Apiary netting over poultry operations confounds the owl & eliminates most problems.

Keep your cats indoors.

Conservation status:

Widespread and common in most areas.

Due to this owl's ability to exploit virtually any habitat and associated prey base, the prospects for its continued survival probably surpasses that of any other North American raptor.



Red-tailed Hawk *Buteo jamaicensis*
(buzzard hawk) (from Jamaica)

Synonyms:

Redtail, old slang includes hen hawk, chicken hawk, buzzard hawk and red-tailed buzzard, Mis'-qua-na-ni'-si (Chippewa).

Description:

The most widespread and familiar large hawk in North America.

The largest hawk east of the Mississippi River.

Stout, robust and powerful bird with broad wings and tail.

Upper body mixture of browns. Underparts buff- white. Tail rufus to deep red.

Regional variants (races) from all dark (melanistic) to pale buff .

Occasional albino or lucistic (esp. WI).

Birds west of the Mississippi River have highly-variable plumage.

Fourteen recognized subspecies in N. & C. America.

Interregional race mixing (races have "mongrelized").

Length: 17-24" Wingspread: 43-56" Weight: 1.5 to 3 lbs. (to 1800 grams)

Females average larger.

Voice:

A harsh, raspy scream, which descends in pitch and volume (territory / alarm).

A short, throaty, grunting chirp (anxious / slightly agitated).

Range:

Virtually all of forested Alaska, Canada, continental U.S., Mexico, and Central America, including Cuba and the Caribbean.

Has increased in most areas due to forest clearing and expansion of agriculture.

Wisconsin status:

Present to locally common statewide.

Especially common in patchy, forest-fringe and parkland settings (see habitat).

Has habituated to human activity in many areas.

Origin:

The buteo lineage made its first appearance approx 25 MYA during the Upper Oligocene (30 - 36 MYA) and Eocene (36 -55 MYA) epoch. Several forms were significantly larger than contemporary ones. The fossil record reveals a variety of buteo hawks from Miocene (6-20MYA) deposits. By the beginning of the Pleistocene epoch (3MYA) accipitrine ("true") hawks had appeared.

Historical:

Immediately following the great cutover of the early 20th century, redtails were presented with conditions which enabled them to disperse and expanded their range into vast expanses of new habitat. Never before was so much suitable habitat open for the occupancy of this open savannah /forest fringe species at one time (nor ever again will there be).

While no documentation of a significant increase in redtail numbers has been documented for this period, one may assume that conditions were ripe for range expansion and saturation of the cutover lands.

However, while most birds were afforded protection under the Migratory Bird Treaty Act of 1918, it was not until the Act was amended in 1974, that diurnal birds of prey (and owls) were afforded complete federal protection.

Migratory Bird Treaty Act: http://alaska.fws.gov/ambcc/ambcc/treaty_act.htm

Prior to that, shooting of hawks (and owls) was probably commonplace on small farms w/ poultry and along migration corridors (L. Michigan shoreline).

In 1919 Wisconsin county boards were allowed to offer a bounty (per USDA) on "hen hawks" – a common reference for redtails at the time.

Habitat:

A very high tolerance of diverse habitats.

Limiting factors may include availability of suitable perch sites (territorial & hunting posts).

Not a bird of dense forests or latitudes/altitudes above tree line.

A forest edge species, esp. in deciduous woodlands, broken landscapes with matrix of woodlots, also mixed deciduous/conifer woodlands. Also tropical, desert, and urban parkland landscapes.

A common raptor in the greater Milwaukee and Madison metropolitan area.

Habits and Behavior:

Usually perches on an exposed limb or post in a sentinel stance, guarding its domain while watching for any movement in its line of sight.

Opportunistic with versatile hunting methods, including perch & wait, flap-glide cruising and open soaring.

Some clever, methodical red-tails learn to approach prey in a “stealth mode”, where they make use of trees, shrubs, and rock outcrops as they suddenly come upon intended quarry unexpectedly.

The red-tail is a powerful and aggressive bird and most other raptors are “loath to mob, chase or hassle it in any way”.

Cocking the head to the side (or upside-down) is an expression of playful curiosity.

A puffed-up posture with partially open wings is an expression of aggression (threat).

Puffed-up, but standing on one leg is just keeping warm while loafing.

A sleek posture with head up is an anxious bird (about to do something).

Diet:

Diverse, due to its ability to modify its diet (switch) to exploit local prey sources.

Primarily mammals (80%), birds (15%), herptiles (esp. snakes), and large insects.

Occasionally carrion (esp. hatching-year birds having a difficult time).

Two hawks in the same area may develop a preference for different prey choices.

This is probably due to experiential learning (positive –vs- negative reinforcement):

A bird grabs a rabbit by the rump, gets “roughed-up” and is discouraged.

A bird grabs a rabbit at the shoulders, easily kills it, and is encouraged.

Special adaptations & limitations:

An adaptable species that thrives just about anywhere.

Can approach 50 mph in direct (flapping) flight. To approx. 120 mph in a dive.

Large feet allow for a wide range of prey choices.

Tolerant of sub-zero conditions, provided it can get out of the wind and stay dry.

Not as tolerant of heat. But if well-hydrated, can exist in desert conditions.

Territory:

The defended perimeter is typically round or oval and is usually bounded by a clump of trees or woodland edge.

The nest is rarely on the periphery of the defended area (usually more interior).

A nest site will be repeatedly reoccupied for many years unless the birds are seriously disturbed or the habitat is altered.

One breeding pair per 320 acres is considered saturated habitat.

One pair per 2.5 to 3 square miles (1500 – 1800 acres) of suitable habitat is normal.

Reproduction:

Life-long monogamous – pairs remain together until death.

Breeds at two years - rarely as yearling.

Courtship flights & displays begin (WI) first few balmy days in mid- late February:

- * tilting – male circles and tilts with wings up and back and legs dangling.
- * high circling – warm, late winter days – soars in wide circles at great height.
- * sky dance – alternate steep dive, check, and shooting upward at equal angle.
- * whirling – while soaring in light wind, male rotates 360° on wing-tip.
- * drop & catch – bird “toys” with inanimate objects (symbolic prey) in mid-air.
- * boundary flight – rapidly cruising perimeter of defended area.
- * High perching – bird advertising its presence, social rank, & claim to site.

Nest building or repair begins in late February (WI).

The large (16”-24” dia.) stick structure is placed in a fork at 30’ to 70” height.

Oaks, cottonwoods and aspens are favorite nest trees (open, easy flight access).

The nest is usually located near or at the edge of a stand of trees. Sometimes in open.

Two to three eggs are down by late March (Madison) - by mid April (Ashland).

Incubation is 28-32 days. She sits - he hunts (most of the time).

When young are 4 weeks old, food is dropped in nest and they can feed themselves.

Young fledge at 6 weeks. They are strong fliers at 8 weeks.

Survival & life span:

May exceed 30 years in captivity.

A typical wild 2 year old may be expected to survive an additional 4 – 5 years.

Mortality, diseases & parasites:

Many hatching-year birds are often facing starvation by mid-August.

Mortality of hatching-year birds averages 54%.

Average annual mortality rate of 20% each year thereafter.

The horned owl is the only serious avian predator in most areas (see owl –vs-hawk).
Raccoons and fishers (north) occasionally raid nests at night.
Red-tails are essentially “blind and helpless” (like most hawks) after dark.
With the addition of crop worms, redtails have the same parasites as the great horned owl (see horned owl facts).

Owl –vs- Hawk:

The great horned owl and red-tailed hawk are mutual antagonists.
They are direct competitors – hunting many of the same prey items.
Where the hawk is common, local horned owls depend on it for nest sites.
The two species often supplant or replace each other where their territories overlap.
The owl preempts the hawk’s nest or sometimes causes it to later desert its nest.
The two birds coexist in a tenuous state of tolerance, aggression and competition.
Older nestling red-tails are a common food of great horned owls.

Damage & abatement:

Damage claims have subsided with the decline in “free range” poultry farming.
Immature redtails show a special interest in poultry- but become confirmed mousers as they mature.
Inexperienced (immature and transient) birds may frequent pheasant operations until they are sufficiently frustrated with the poultry netting.

Falconry and captive management:

In general, a stable, predictable temperament or disposition.
“Forgives” most minor mistakes of the novice falconer.
Settles down quickly in captivity and is easily maintained.
Imprints may become overly assertive (with hazardous consequences) as they mature.
Passage birds (first migration or movement) make the best birds (adults are illegal).
Most American falconers fly red-tails. (They are readily available in most areas).
A suitable and reliable “weekend bird” for a falconer with limited time.
A swift, spirited, powerful and dependable bird- a good all-purpose hawk in falconry.
Especially effective at taking rabbits, squirrels and occasionally pheasants.
Will breed in captivity (requires a captive propagation permit).

Falconry Links...

North American Falconers Association <http://www.n-a-f-a.org/default.htm>
Great Lakes Falconers <http://www.greatlakesfalconers.org/board.htm>

Wisconsin Falconer's Association <http://www.wisconsinfalconers.org/>
WI Falconry Permits: <http://dnr.wi.gov/org/land/er/falconryPermit.htm>

Conservation status:

The redtail is now a widespread and common bird in most areas. Their numbers have gradually increased since the 1960's. They are now considered stable and still increasing in some areas. Some birds have habituated to human activity and are familiar residents of urban areas and city parks. The outlook is good for this highly-successful bird.

A final thought on raptors:

It wasn't that long ago when raptors were considered vermin by sportsmen and farmers. Even some eminent conservationists of the 1930's and 40's were calling for the control of so-called "harmful" birds of prey – especially the bird-eating species.

Today, after several decades of protection, many raptors have sufficiently rebounded from the shooting and pesticide use of the past. Several species are now common birds on the landscape. As these birds continue to interface with society, the incidence of conflict (nuisance and damage) will in all likelihood increase. As a result, wildlife managers may find themselves (once-again) facing some of the same issues and attitudes that their predecessors faced over a century ago.

Would you like to know more about raptors? Check out these links....

The Raptor Research Foundation: <http://raptorresearchfoundation.org/>

The Raptor Center at University of MN: <http://www.raptor.cvm.umn.edu/>