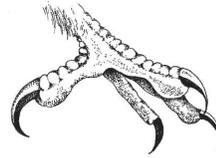
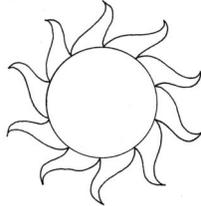




Hawks

Order Falconiformes



Hawks are grouped into four basic types depending on their physical features and food preferences: **accipiters, buteos, falcons and harriers**. In nature, when different species react to competition by evolving to use similar resources in different ways, it is called **Resource Partitioning**. Hawks and owls have adapted to the practice of resource partitioning. Both feed on the same prey in essentially the same habitats – but the hawks are diurnal (active during the day) while the owls are nocturnal (active at night). Their adjusted behaviors help avoid undue competition for the same resources.

Daylight is important to hawks or raptors. Most have large wings compared to their body size. This physical adaptation helps them to soar. **They are designed to ride on thermals** – those circular columns of heat energy that rise above the sun-baked earth. Riding thermals for hours on end without flapping a wing helps the raptors save precious energy while hunting and traveling.

In addition to their **large wingspans**, raptors all possess **sharp talons**, with which they exert extreme pressure to grab and subdue their prey. Some hunt while soaring. Some hunt from a perch and, some, like the peregrine falcon, strike in mid-air. Once their meal is caught hawks will “mantle” the prey by spreading their wings over it. It is believed this behavior shields the prey from other predators. Their strong, hooked bills are used to tear their food into bit-sized pieces.

All birds possess good eyesight, but birds of prey have **superb eyesight**. It's an important tool if you are soaring high overhead looking down toward the earth for small prey. Their eyes, placed toward the front of their face, give them binocular vision. This enables them to judge distances – an important physical adaptation if you need to quickly grab a fast moving object – like your dinner.

Like all birds of prey, and some herons, **hawks will regurgitate a pellet of indigestible feathers, fur or small bones from their prey**. These pellets help biologists determine which species of animals different birds of prey favor. Studying pellets has also helped protect birds of prey. In the past, thousands of raptors were killed on sight because people believed they killed chickens and other small livestock. But the bones found in pellet tell a different story and we now know that most raptors feed heavily on rodents – playing an important roles in the control of pest species and the natural balance of their ecosystems.



Males and females of most birds of prey are similarly marked and colored, but females are usually larger than males.

Hawks build a stick and twig nest high in the trees, sometimes using the foundation of a squirrel or crow nest. **A few species nest in cavities and some nest on rock ledges.** Most hawks mate for life.

Females begin incubating each egg as soon as it is laid (usually one per day for a clutch of two –three eggs). This results in a nest with fledgling of various sizes. If food is scarce the smaller fledgling may not survive the competition with its nest mates. The **young are altricial** and require their parent's care for up to ten weeks.

Every autumn in Pennsylvania large numbers of hawks migrate through our state following large physical landmarks like our Allegheny Mountains and the Susquehanna River to find their way south to their wintering grounds. The autumn migrations are so predictable that world-famous migration sanctuaries like Hawk Mountain in Kempton, PA can tell you what species to expect on specific days of the month. Spring migrations back north to their breeding grounds are more sporadic.

When we think of birds of prey, **buteos** are probably those birds which first come to mind. They are physically built like we imagine these avian predators should be.





Buteos

Order Falconiformes
Family Buteoninae



Buteos are larger-bodied hawks with broad, rounded wings and broad, fanned tails. In Pennsylvania, they include red-tailed, red-shouldered, broad-winged and rough-legged hawks. Buteos are commonly sighted soaring overhead in wide circles over open countryside. They will also hunt from perches such as tree snags and telephone poles overlooking fields and grassy patches. They feed mostly on small mammals, reptiles and amphibians.



Red-tailed Hawk

Buteo jamaicensis



Our most common buteo is the impressive Red-Tailed Hawk. A stocky bird up to two feet long with a wingspan almost five feet, the red-tailed hawk is a common sight along our interstates and country road perched high on a pole or tree looking for prey in the mowed stretches along the highway. When they spot prey they often swoop down directly in front of an oncoming car. A collision with a speeding car is the number one reason these birds end up in wildlife rehabilitation facilities – if they are lucky. Most, of course, die as a result. But for these raptors it is an easy way to hunt for food.

Red-tails do not get their rusty-colored tail until they are several years old. But immature birds can be identified by the “belly band” field mark that all red-tails possess. It is easy to spot when they are soaring on thermals quietly overhead on a sunny day. They **nest high in trees, sometimes lining their nest with evergreen boughs.** Occasionally a nest may be built on a rock ledge. While woodlands are important nesting sites for these birds, they require open country to hunt over.

Red-tails are often “mobbed” by crows. If you see a group of crows appearing to attack a tree-top, check closer. They probably have found a red-tailed hawk or a great-horned owl and are determined to pester it until it leaves its perch.



Red-shouldered Hawk *Buteo lineatus*



The **Red-Shouldered Hawk** is smaller than the red-tail, more **the size of a large crow**. Beautifully colored, the adults have **rusty-red shoulders, black and white barring on the tail and red across the chest**. Not nearly as common as the red-tail, **they prefer flooded woodlands, river bottomlands and swampy areas**. They will often hunt frogs and snakes from a tree snag with an open view.



Broad-Winged Hawks (*Buteo platypterus*) - pictured at left - **are also smaller than red-tails**. They too are crow-sized, but that doesn't mean they are shaped like a crow. Despite their smaller size, both the red-shouldered and broad-winged hawks retain that very buteo-like body shape: chunky, broad-shouldered birds with wide, rounded wings and tail. Broad-wings can be identified by a **wide-banded black & white tail and rusty barring on their breasts**.

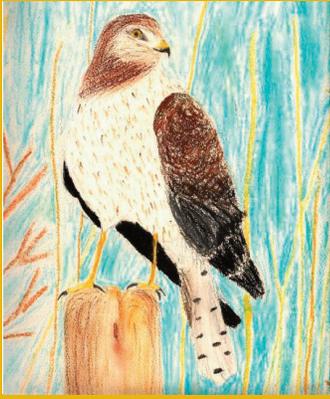
Although common in our state, **they are shier than our other buteos**. They **prefer deciduous woodlands**, so broadwings often go unnoticed, that is, until fall migrations when **huge flocks of broadwings** travel together in groups which **are called "kettles."** In places like Hawk Mountain, as many as 20,000 broadwings have been known to pass over their look-outs in just one day during peak seasons in September.

Rough-Legged Hawks (*Buteo lagophus*) - pictured at right - **are similar in size to red-tails**. Unlike other hawks, which have yellow-scaled legs, **rough-legs get their name from the feathers that grow down to their toes (like an owl)** – giving them a rough-legged appearance.

These birds nest in the arctic on rock ledges, so the extra feathers are thought to keep them warm. **If their normal prey of lemmings and small birds are scarce in winter they will migrate south to Pennsylvania in search of food.**

When they do winter in our state **they soar low over open farmland, which resembles the tree-less tundra of their arctic home**. If there is a headwind, they will **hover** over the fields – **often at dusk** - while searching for prey.





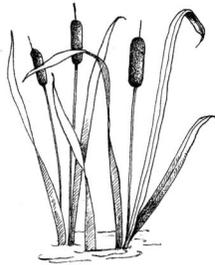
Northern Harrier

Order Falconiformes
Family Buteoninae
Buteo lineatus



The Northern Harrier is the only harrier in North America. Along with the American kestrel, the harrier is **one of the few birds of prey with males and females differing in color.** This is known as color dimorphism. **Males are slate-gray** above, white below with a white rump patch on the tail. **Females are brown** with the same white rump patch black and tan banded tail. The immature hawks resemble females. Harriers also have a **facial disk of feathers similar to an owl.**

Harriers fly low over open country, similar to a rough-legged hawk. They also share the same white rump patch as a rough-legged hawk. **Their flight silhouette is shaped in a V,** resembling a turkey vulture in flight. Harriers are tall and slender raptors standing about two feet high. They do not have the bulky bodies like that of buteos. Their wingspan is about four feet.



Harriers used to be known as **Marsh Hawks** due to their preference for marshland and wet meadow habitats where they feed on rodents, insects and small birds.

Unlike most other hawks, their stick and grass **nests are built on the ground** or on a low branch over water.





A Simple Review of Buteos & Harriers



When most people think of a hawk they are picturing a group of hawks called buteos. **Buteos have large wingspans built to soar** over open fields. **They ride thermals** – or warm columns of rising air – helping them save energy while they hunt or travel during spring and fall migration (below). They have **wide-shouldered, chunky-shaped bodies, a large curved beak and strong, sharp talons.**

The most common and largest buteo in Pennsylvania is the red-tailed hawk. They get that red tail when they are about three to four years old. If you can't see a red tail, you can identify these birds by their "belly-band," which is a band of dark spots across their belly.

Like all birds of prey, their **eyesight is superb.** This helps them hunt while high up in the sky searching for small prey way down on the ground. Other buteos include rough-legged hawks, which are about the size of a red-tail but only visit our state in the winter. Broad-winged hawks and red-shouldered hawks are also buteos. But they are both smaller than red-tails. **Like all birds of prey, the females are larger and heavier than the males.**

Buteos like to feed on small mammals, reptiles, amphibians and occasionally small birds. During the fall migration these birds gather together in **huge flocks called "kettles"** following landmarks like mountain ranges and large rivers.

Although **buteos need the open country over which to soar and hunt,** those that nest in Pennsylvania **nest in woodlands.** They build large stick nests, which they often add to year after year. Eggs are laid one day at a time but incubation starts as soon as the first egg has been laid. This means the **altricial nestlings** hatch on different days. **One nest may have nestlings of various sizes** – the biggest being the first born.

If there is plenty of food all the nestlings will survive. If food is scarce, the youngest nestling may not make it. These large hawks usually stay in the nest for over a month and remain with the parents learning to fly and hunt for even longer.

The **Northern Harrier** is also a large hawk, but **is not considered a buteo.** Their body is more slender. The male harrier is brown and the female is gray. This is unusual for birds of prey. Normally, male and female raptors are the same color. **Harriers fly low over the ground while soaring** and have a large, white rump patch.

Harriers a bit like owls. They have round feathers on their faces like the **facial disk** of owls. These feathers are believed to help them **locate their prey by sound** – also unusual for birds of prey. Their wing feathers are built like owl feathers too. The **structure of the wing feathers help them fly more quietly** – just like an owl. This probably helps them "sneak-up" on their prey.

