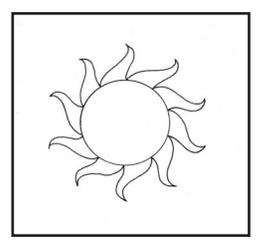
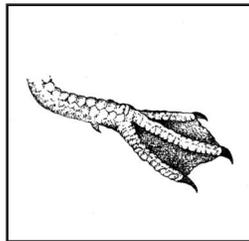
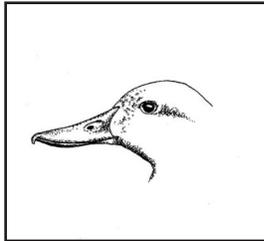
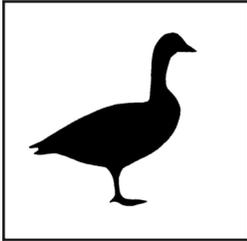
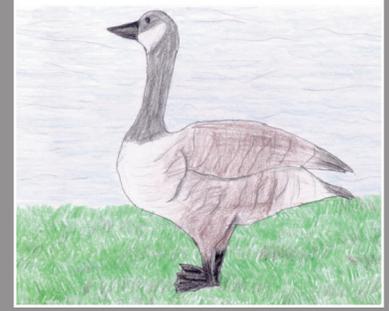


Swans & Geese

Order Anseriformes
Family Anserinae



Swans and geese are large waterfowl most often seen in Pennsylvania during fall and spring migrations. They will stop to feed and rest on our state's lakes and rivers. By **up-ending their bodies they can use their long necks to reach well underwater to pull up aquatic plants, crustaceans and insects.** Their **legs, set well back on their body, allow them to walk fairly easily on land** while they forage through harvested farm fields eating leftover corn and soybeans or eating winter crops like wheat, rye and barley. It takes time for these large birds to take flight. They **need to run along the surface of water or on land while beating their wings to build up enough speed to become airborne.** Once aloft these large birds can attain high speeds – up to 50 miles per hour.

The **tundra swan used to be known as the whistling swan** thanks to its deep *whoop whoop whoop* call, most often heard as they fly in a V formation high overhead during the fall and spring.

Tundra swans are **large, handsome white birds with black bills and feet.** Their bodies are up to five feet long with a five-foot wingspan. Adults weigh up 18 pounds. The **neck is usually held straight up,** unlike the elegant, curved neck of the domestic Mute Swan. A **yellow spot** can often be seen **in front of the eye.**

Tundra swans do not nest in our state. Instead – as their name suggests – **they breed & nest in the arctic tundra** of Alaska and Canada, pairing in life-long bonds. **Young swans are called cygnets.** They are able to fly by two-three months. In late September, flocks consisting of various family groups of up to 100 birds, begin to head south. Swans can fly at altitudes as high as or higher than 4,500 feet. Tundra swans can be seen flying over our state during migration and wintering in Lancaster county and along the Susquehanna River.



Tundra Swan

Cygnus columbianus



Mute swans (*Cygnus olor*)- at left- are usually associated with farm ponds or elegant estates or parks. They were **introduced** to North America from Europe and some mute swans now breed in parts of the northeast. Easily **recognized by their “S” shaped long neck, head held down and large orange bill marked with black knobs** - while our native tundra swan have straight, upright necks (above).

Mute swans will vigorously defend their nests and can cause serious damage to pets or people who venture too close. Both the **pen (female) and cob (male)** will allow the young **cygnets** to ride their backs as they float across the surface of the water until the cygnets are old enough to swim on their own hunting down insects and crustaceans. Like all swans and geese, they feed heavily on aquatic plant roots, stems, leaves and seeds.



Canada Goose

Brant canadensis



First of all, they are called a Canada goose - if you see just one, and Canada geese - if you see a flock. But they are not Canadians. **Bold, black & white field marks on long, graceful necks** make Canada geese easy to identify. Here in Pennsylvania, our crisp autumn days are often marked by the familiar sounds of deep “honking” coming from their large V-shaped flying formations overhead.

There is a benefit to moving in large flocks - the more eyes and ears - the more you can see and hear. This is a handy adaptation when searching for food or watching for predators. A flock of birds also appears larger to a predator, making it less likely one would choose to attack. Even **flying in the V formation** is a benefit. It **conserves energy** – reducing the drag force that each bird would experience if it flew alone. Since the lead bird works the hardest – flying into undisturbed air - it will drop back occasionally to rest while another bird takes its place. The V formation also allows geese to communicate and have eye contact more easily with one another.

Canada geese are large, plump birds – up to 13 pounds. Their short legs are set forward on their body, allowing them to easily walk on land and look for food far from water. The **broad, round-tipped bill has “lamellae” or teeth around its outside edges that are used as a cutting tool.** The feet are webbed. Adult males, or ganders, average about 36 inches in length. The female geese are a bit smaller and lighter, but gander and goose look alike.

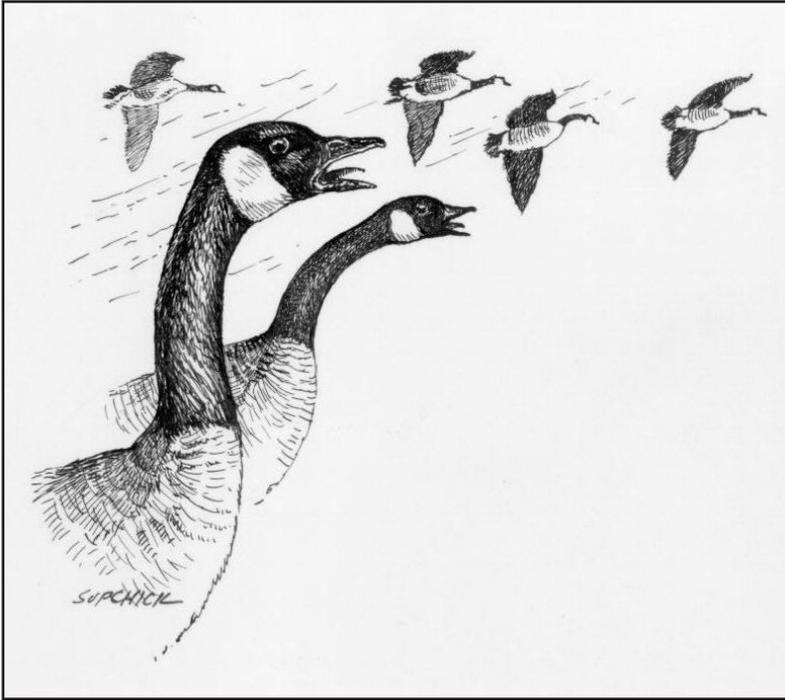
Geese **nest** in a wide variety of habitats but are **fond of islands in rivers and lakes with an open view.** Occasionally they will nest on top of muskrat homes, an old osprey or heron nest, man-made nesting sites or in grassy fields near water. The female builds a **ground-depression nest lined with sticks, cattails, reeds, grasses or down feathers plucked from her breast.** Four to 10 creamy white eggs are incubated for nearly a month while the **male gander** stands on guard nearby.



The **goslings are precocial**, meaning they're able to walk and swim soon after they hatch those they are still covered with brown fuzzy down.

Both parents stay with the goslings, and for at least **the first week the goose still broods them at night** (sits on the goslings to keep them warm and safe).

Once a **gander and goose** have mated they will **remain together as long as they are both alive.** But contrary to popular belief, if one dies, the other will seek another mate.



Unregulated hunting years ago caused our goose population to drop to dangerous levels. But **Pennsylvania's strict hunting seasons and bag limits helped the geese rebuild their numbers.** Similar wildlife management methods helped our white-tailed deer, black bear and wild turkey populations.

The state's agricultural industry has also helped - though not intentionally. Although known for feeding on aquatic vegetation, **geese have developed a preference for the grains and cereal crops found on Pennsylvania's abundant farmland.** As long as our farms thrive, Canada geese will have a home in our state.



Snow Goose

Chen caerulescens

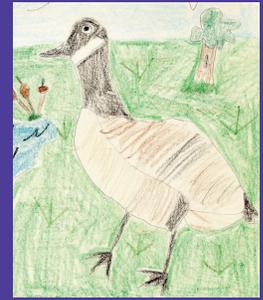


Snow Geese are mostly white and a bit smaller than the more familiar Canada geese. Their wings are black-tipped. They also come in a color morph known as a blue goose (below left). As they have learned to forage away from water on farm crops their populations are building. **Snow geese breed in the arctic but migrate in enormous flocks settling down in Pennsylvania's harvested fields and shallow lakes.** A popular place to view migrating snow geese is Middlecreek Wildlife Management Area operated by the PA Game Commission. Much of the sanctuary consists of flooded crop fields. In late February and early March the fields and lakes of Middlecreek are inundated with these birds. Well worth the trip to the border of Lancaster and Lebanon counties on a frosty late winter day.





A Simple Review of Swans & Geese



Geese and swans are the largest of our waterfowl. **They are known for their strong flight and long migrations – often in a large V-formation** soaring high overhead. Most birds weigh very little. All have hollow bones and lightweight feathers. These features help them fly. But **waterfowl are among our heaviest birds**. To give you an idea of how heavy geese and swans are, consider this. A great horned owl – our largest owl – weighs about 2-3 pounds. Our largest swan – the tundra swan - weighs up to fifteen pounds! These birds have strong breast muscles to power their steady wing beats. This helps keep them aloft. They are not designed to soar like hawks.

In addition to being one of our largest birds, Canada geese are also among our most recognizable with their long black neck and white cheek patch and honking calls during flight. **Their strong wings** help them fly long distances but can also be **used as weapons if an intruder approaches too close**. Both their feet and bill are black. The bill is bordered with **lamellae**, which are teeth-like bumps that help the birds grip and tear at vegetation while eating

The **whitish, snow goose is smaller than the Canada goose**. They visit the state during winter, often in enormous flocks. They breed in the arctic.

Another white bird similar to a Canada goose is **the tundra swan – the largest swan in the world**. They are a beautiful snowy white with a black bill, legs and feet. Their long neck is held straight up when they are standing or swimming and straight ahead of them while in flight. When tundra swans fly in formation you can often hear their “**whoooo-whooo**” call high overhead.

The mute swan you might recognize from fairy tales. They are large, elegant white birds with a long neck held in an “S” curve over their backs. Most mute swans in our country were bred in captivity or brought over from Europe. The **nestlings of geese are called goslings**, but **young swans are known as cygnets**.

Ever wonder how geese and other waterfowl survive icy cold water? Birds don't have sweat glands. Since they don't sweat, they don't have moisture on their skin. The **lack of moisture prevents their feet from freezing to the ice**. They also have an impressive heating and cooling system in their bodies thanks to the arteries and veins in their legs. Warm arterial blood is always moving from the birds' body core down to their feet, while cold blood in the veins of their feet returns to the body's core to be warmed.

And geese have large amounts of down — those fluffy feathers lying against their body - to insulate dead air space. If down sleeping bags and down winter coats keep you warm, can you imagine how well the down feathers work on the original source?