



# ALL ABOUT WOOD THRUSH

## Fast Facts

- They are smaller than an American robin, with cinnamon brown feathers that help them blend into their forest habitat
- They prefer mature deciduous forest habitat with a well-developed understory and a thick layer of leaves on the ground
- Wood thrush are omnivorous, eating mostly a variety of insects and forest berries, but will also eat calcium-rich food like small snails or millipedes
- Females lay three or four eggs at a time
- The Wood thrush is classified globally as a species of least concern (IUCN, 2009) but threatened in Canada (COSEWIC, 2012); populations are at risk primarily from habitat loss, forest fragmentation, and cowbird parasitism; acid rain, chemical contaminants and window strikes are also problems

## DESCRIPTION



The Wood thrush is a cinnamon-coloured songbird with a white and brown spotted chest and remarkable singing voice. Their legs are pink and seem a bit long at first glance, but are important for helping them walk and hop along the forest floor. The tail of a Wood thrush is fairly short, and they have a slightly curved bill that helps them search for food. Their body shape is a lot like an American robin, but the Wood thrush is a bit smaller. Like robins, Wood thrush spend a lot of time on the ground where they hop and scurry through leaf litter, digging up insects and other invertebrates to eat. Unlike robins, however, the Wood thrush is somewhat shy, and pretty hard to spot.

While they might not be easy to find, you can definitely tell a Wood thrush is in the area by listening. These birds are famous for their flute-like song, which is sometimes called the most beautiful of all the North American songbirds. You can even find poems written about the song of the Wood thrush! As with most songbirds, males are the performers of the species; females very rarely sing. Wood thrush are even capable of singing two notes at once! In the spring when males sing to establish their territories and attract mates, they engage in a behaviour called counter-singing with one another. Counter-singing is common among males of many songbird species, and involves neighbouring males singing alternately to indicate territory boundaries and advertise to females. Wood thrush, however, counter-sing a little differently. Most male songbirds will "answer" a neighbouring male's call by repeating the same song, but male Wood thrush often "answer" by singing a different tune! If the songs of two different males in different territories are sung such that they overlap, this communicates increased non-physical aggression between the two males.

## HABITAT



As a general rule, songbirds that breed in Canada or the Northern United States in the summer migrate south to warmer climates (e.g. Southern United States, Central America or South America depending on the species) for the winter because of the cold temperatures and lack of food (insects). In the fall, after they are done breeding and have moulted their feathers, Wood thrush fly south to tropical forests of Central America where they spend the winter months. The next spring they migrate north again to their breeding grounds where they live for the summer. Wood thrush breed throughout Eastern North America to the Gulf of Mexico.

The Wood thrush is a forest-dwelling bird that prefers old growth forests (undisturbed forests with old trees) that have a mix of deciduous (lose their leaves in the fall) and coniferous (needle-bearing and do not lose their leaves/needles) trees. They like open forest floors with a thick layer of decaying leaf litter which they will rummage through for food. A nearby source of water comes in handy, as do plenty of smaller shrubs and saplings they can use for cover from predators like raptors and small mammals. If they can't find the large forests they are looking for, they will nest in smaller, patchy forests or suburban parklands but in these areas they are more vulnerable to predators and cowbirds.



## ECOLOGY



Wood thrush play an important role in old forest ecosystems because of what they eat. They snack on a wide variety of insects, which helps keep insect populations under control. Wood thrush will also eat berries, especially in the fall when fewer insects are available. By eating fruit and then leaving their droppings in different areas while they move around Wood thrush help spread the plants' seeds.

Wood thrush are also an important food source for other animals that prey on them. Being smaller birds, juvenile and adult Wood thrush are the perfect prey for larger carnivores such as small mammals, birds of prey like owls or raptors such as hawks. During the breeding season, eggs or young in nests are eaten by a number of potential predators including chipmunks, squirrels, cats, mice, weasels, snakes and birds like Blue jays, grackles or crows. When flying in open areas, such as gaps between forests or during migration, Wood thrush can be preyed on by falcons.

## REPRODUCTION



Overall, the Wood thrush breeding season lasts from late April to the end of August, but most eggs are laid in May or early June. Females build cup-shaped nests alone using grass, twigs or leaves, or sometimes bits of paper or plastic when living near people, and line the inside with mud to give the nest greater strength. The female will "squat" in the nest while building so that the nest takes the form of her body. Nest building usually takes three to six days, with nests being built in trees where main branches form a three-pronged V-shape to provide the necessary support for the nest. Sometimes females choose smaller trees (three to five metres high) as nest trees for their first nest, but will re-nest in much larger and taller trees if their first nest is preyed on.

## DIET



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Wood thrush eat a variety of invertebrates. For much of the year they mostly prey on larvae and adult insects they dig up in the leaf litter on the forest floor. When females are laying eggs, however, they need a lot of extra calcium to form eggshells inside their bodies so they will also eat calcium-rich food items like snails, millipedes and beetles (with hard shells) in addition to other insects.

Using their beaks, Wood thrush flip over leaves on the ground to find their food hiding in the damp cover underneath, and will sometimes pick at the loose soil at the ground surface. Although most of their food is found along the ground, they will sometimes pick insects from the surface of trees. Although Wood thrush prefer invertebrate prey, they also feed on berries and other small fruits, which they swallow whole! In the fall during moulting of feathers, fruit can be an important source of nutrients because there are usually less insects available at that time of year. Wood thrush will occasionally eat small salamanders as well.

## CONSERVATION STATUS



- Globally least concern (IUCN, 2009), but threatened in Canada (COSEWIC, 2012)
- Along with habitat loss, habitat fragmentation and cowbird parasitism, acid rain makes it difficult for the Wood thrush to produce healthy offspring

The Wood thrush is considered a prime example of the decline of North American forest songbirds. While they are considered a species of least concern internationally, they were listed as threatened in Canada in November 2012. Population surveys from 1966 to 2009 throughout North America show that the number of Wood thrush has decreased by about 2% each year. These numbers indicate an overall population decline of about 50% during that time period. Two of the primary conservation



Females typically lay three to four smooth, turquoise-green eggs . Females begin laying eggs within three days after the nest has been built and will lay one egg per day, usually in the morning. The period of incubation, when the female sits on her eggs to keep them warm, lasts about 12 days. The baby bird inside the egg takes 3.5-22 hours to break out of its shell. When the eggs are hatching the male and female work together to remove the shells and feed the nestlings. Once a pair has raised their first brood successfully, most pairs will attempt to nest again in a new spot within their territory with their second brood. This behaviour is called double brooding. When it's time for the female to lay her second clutch, the male takes over feeding the first set of fledglings (young that are old enough to leave the nest and fly). After the second set hatches, the parents share the task of feeding both broods.

Scientists have discovered that, during egg laying, Wood thrush sometimes leave their own territory and visit neighbouring Wood thrush in other territories nearby. These visits are called extra-territorial forays because the birds are foraging off their own territory and visiting territories of other Wood thrush in the same area. Genetic studies show that these forays appear to be for the purpose of mating with neighbouring individuals of the same species! In Ontario, up to 40% of young in Wood thrush nests are the result of these extra pair matings between individuals that are not paired together for the summer.

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concerns for Wood thrush including habitat loss and habitat fragmentation on their breeding and wintering grounds. Wood thrush prefer large, mature forests for breeding and overwintering. On the breeding grounds, Wood thrush like to build their nests away from the edges of forests because they are less at risk from nest predation and cowbird parasitism. Human development and agricultural activities have dramatically reduced the amount of mature forest habitat available for Wood thrush and other migratory songbird species, placing these birds at serious risk. Other important threats include cowbird parasitism, acid rain, chemical contaminants in the environment and window strikes during migration.

When not protected by a large, thick forest, breeding Wood thrush are often victims of nest predators and Brown-headed cowbirds. Nest predators often search for nests along forest edges because the nests are easier to find and access. Female Brown-headed cowbirds lay their eggs in the nests of other (host) birds, tricking those birds into caring for their young. While some birds can notice cowbird eggs and get rid of them, Wood thrush can't tell them apart from their own eggs and will raise them along with their young. The problem is that these young cowbirds require a lot of food and room in the nest. Wood thrush nestlings become robbed of valuable food and nutrition, and sometimes the adult cowbirds will even push Wood thrush eggs out of the nest! Cowbirds are a very serious problem for Wood thrush. Cutting down forests across Eastern North America has left most forests fragmented and patchy, making it hard for Wood thrush to find places for their nests that are not near a forest edge. In highly fragmented forestss nearly every Wood thrush nest will contain at least one cowbird egg.

Scientists have also linked the Wood thrush's decreasing numbers in the wild with the environmental effects of acid rain. Acid rain occurs when the pollutants released from burning fossil fuels, like coal or gas, react with water molecules to make rain more acidic. Acid rain is a problem across much of North America. Acid rain interacts chemically with soil nutrients and removes calcium from the soil, a process known as leaching. Wood thrush females require calcium to build strong eggs, that's why they will eat invertebrates like snails, millipedes and beetles that are high in calcium. Those invertebrates get calcium from eating plants, and plants get calcium from the soil. Without high-calcium food to eat, Wood thrush have difficulty finding the nutrients they need to make strong egg shells, which means fewer young are hatching successfully. Other threats facing Wood thrush include environmental chemicals (e.g. pesticides) and window strikes during migration.

The threats facing the Wood thrush show how our actions can impact the planet, but tThe good news is there are many ways to take action. By making choices in your life to reduce the amount of energy you use, like biking instead of taking the car, thinking about cleaner sources for that energy and trying to conserve natural areas like forests, we can help our planet stay healthier. You can also help by spreading awareness about amazing animals like the Wood thrush, letting more people know that songbirds need their forest homes protected.