



The Ferrum Nature Society Bulletin

Dedicated to the appreciation and conservation of our natural world

Editors: Todd Fredericksen tfedericksen@ferrum.edu
Nell Fredericksen nfedericksen@ferrum.edu

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Nature's Events:

Fall flowering shrub

Trees will become bare this month, but you might find a flowering shrub in the November woods! Witch-hazel (*Hamamelis virginiana*) is a late fall and early winter flowering shrub native to Virginia.



Autumn rut

This is season of the annual rut of the white-tailed deer. Deer are on the move more often during this period, so be extra vigilant on the road.



Sky calendar:

Full moon November 5 is called the "frost moon".

Saturn - is an early morning planet this month. Mercury will transit the sun this month.

How to sleep with one eye open

David Ellington

Vigilance is an important factor in improving fitness in all species. Vigilance is defined as the process of paying close and continuous attention to the surrounding environment. Apart from vigilance, there has to be time set aside for sleeping. Sleeping is an important factor in maintaining alertness and allowing proper development to occur. In the wild, there is little time for error, so maintaining vigilance while sleeping almost seems impossible, but not for animals that are capable of unihemispheric slow-wave sleep patterns.

An extraordinary animal known as the Mallard duck (*Anas platyrhynchos*), also referred to as common wild duck and curly duck is a vigilant animal. "Mallard" relates to maleness from Old French "Wild drake" from *masle*: male. Mallard ducks are "surface feeding" animals that seldom go below the surface, unless an infant is in danger. Males and females have very distinctive markings that distinguish between the sexes, including males with their green heads, white neck bands and rust-colored breasts and females which are mottled brown. Both sexes share a blue speculum on the tail and at the hind of the wing they have a white bar, where the wing joins the body.



Mallard ducks usually sleep in rows, exposing each end of the formation to an attack by a predator. So how do Mallard ducks sleep and maintain vigilance? Mallard ducks utilize a very unique form of sleep classified as unihemispheric slow-wave sleep pattern. The unihemispheric slow-wave sleep pattern allows a Mallard duck to sleep with one eye open and the other closed, as well as switching from one hemisphere to the next, allowing each hemisphere to get optimal rest. This extraordinary pattern of sleep permits vigilance to occur on an ongoing basis. Mallard ducks only utilize the unihemispheric slow-wave sleep pattern when environmental conditions are very hostile. In other cases, a normal sleeping pattern is used.

Winter cottontails

Ashley Pitsenbarger

While many species of wild animals become dormant in the winter, one species that you can count on seeing throughout the winter is the Eastern Cottontail Rabbit (*Sylvilagus floridanus*). This little furry friend can be identified by its long ears, brownish-grey body, small white cotton ball tail, and rusty-colored neck.

To find this rabbit, do not look any farther than the brush that surrounds a tall grassy field. These mammals can also be found in urban or suburban areas as long as there are thickets surrounding a grassy field. On a cold winter night, look for a nearby burrow where one is likely hiding

from the cold weather and predators. The Eastern Cottontail utilizes brushy fence rows, corn rows, ditches, and stream banks as travel lanes which help to keep this mammal from becoming dinner for a predator. Cottontails can be found mostly at night, late evening, or early morning because these creatures are crepuscular and nocturnal.



The Virginia Deer Josh Lawton

There is a very good chance that you have seen a white-tailed deer (*Odocoileus virginianus*) in the last day or so. This has become a problem as of late in many areas across the state of Virginia because the reproductive success of this deer in our landscape with interspersed forests and farmlands. Once scarce throughout much of the state, the deer herd in the state now hovers around 1 million animals.

White-tailed deer are not very picky when it comes to habitat. They range from swampy areas in the southern U.S. to the deserts of the Southwest and from the flat farmlands of the Midwest to the Rocky Mountains. Nebraska, Utah, and California are the only places in the contiguous United States that this species does not inhabit. Deer basically just need food, water, and a place to bed. They also like thick vegetation to escape from predators, which is where "edge" habitat comes into play. Deer like to graze on herbaceous plants in fields or browse on shrubs and saplings near the borders, or edges, of fields and forests. They can escape quickly into forest for cover for protection. Today, we have a large amount of edge habitat.

Food for the white-tailed deer, however, changes throughout the year. When the weather is warm and everything is green, deer stick mainly to succulent leaves and grasses. They eat the buds and soft green parts of plants and shrubs in the woods. Out in fields, they feed on grasses, clover, and almost any other planted crop. In heavily human-populated areas, they eat gardens and flowers. When the weather starts to cool and fruit and hard mast becomes ripe, the deer use these as their main food sources. They will continue to eat greenery as long as it's available. Deer rely on production of hard mast, which includes acorns, hickory nuts, and beech nuts, to survive through the winter. These foods help built up fat which, in turn, keeps them warm when the weather gets rough. In the winter, deer mainly feed on the buds and twigs of woody plants.

The white-tailed deer reproduces in the late fall and early winter. They have a mating period that is called "the rut". This is when the does come into estrus and are ready to be bred. The rut usually happens two different times; once in the late fall and then

again a few weeks into winter. These are designated as early rut and late rut. The first rut usually consists mainly of the dominant bucks and does that breed. The second or late rut happens when the does



that were not bred the first time come back into estrus. Usually the smaller bucks breed during this time. In May of the next year, one to three fawns are born; although three fawns to one doe is very uncommon. The cycle then starts over once again and no garden or flower bed is safe.

The shortening day length of Fall

Date	Jul 1	Jul 16	Aug 1	Aug 16	Sep 1	Sep 16
Hours light	14.81	14.58	14.13	13.59	12.92	12.25

Date	Oct 1	Oct 16	Nov 1	Nov 16	Dec 1	Dec 16
Hours light	11.58	10.92	10.27	9.75	9.37	9.17



Project FeederWatch

An annual survey of birds that visit feeders in winter



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BIRD STUDIES
ÉTUDES D'OISEAUX CANADA

Count birds that come to your bird feeder this winter as part of a citizen-science project. Project feeder watch is in its 20th year. You do not have to be a bird expert to participate. For more information, check out <http://www.birds.cornell.edu/pfw/>.