



Ruffed Grouse

Bonasa umbellus



2018 marks the centennial of the Migratory Bird Treaty Act, considered by many to be the most powerful and important bird-protection law ever passed. In honor of this milestone, National Geographic, the National Audubon Society, the Cornell Lab of Ornithology, and BirdLife International are joining forces with more than 100 other organizations, including the National Park Service, and millions of people around the world to celebrate 2018 as the “Year of the Bird.” As part of this celebration, NETN’s Species Spotlight series will focus on a different bird species each month throughout the year.

Sporting supreme camouflage during the spring, summer and fall, a Ruffed Grouse can be very hard for hunters (human or otherwise) to spot in a typical northeastern forest scene. Sized somewhere between a pigeon and a crow, these largely ground-dwelling birds are very popular game birds and are often colloquially referred to as “partridge”.

Living in a Ruff Neighborhood

Once thought of as a purely wilderness bird, Ruffed Grouse can actually do very well living close to human development. Their primary requirements are having adequate food and cover habitat nearby. Grouse seem to do especially well in young, fast-growing forests.

Like the males of many species the world over, Ruffed Grouse put on an elaborate mating display ritual designed to attract a female hen. In a scene reminiscent of many a beer-muscle late-night encounter at your local watering hole, male grouse puff out their chests when in full display mode showing off to a hen or defending a territory. The long, shiny, black neck feathers are then extended out into an impressive “ruff” and his tail fully fanned-out. These feats of bravado can make the male look almost twice his normal size.

Cold Comforts

Though they don’t molt to full white plumage like their more northerly cousins the Ptarmigan, Ruffed Grouse do have many adaptations that allow for them to face tough northeastern winters like a champ. One is that they change to a completely different winter diet. Instead of feasting on leaves, fruits, insects, and the occasional small amphibian as they do in the snow-free months, during winter Grouse almost exclusively seek out flowers. Yes - focusing on flowers in the winter does seem like folly, but not if you know where to look. Grouse are actually feeding on the flower *buds* and catkins of many tree species, including aspen (trembling aspen being a favorite), birch, cherry, alder, willow, beaked hazelnut, ironwood, and apple trees. In the past, some Massachusetts towns even went as far as to put a bounty on these de-budding birds in the likely erroneous belief they were causing significant damage to area apple orchards.

DIY Snowshoes

One of the more unlikely adaptations Grouse have evolved is the ability to grow their own snowshoes. As the day-length decreases in the fall, the toes on their feet begin to grow comb-like protrusions that emerge laterally, widening the surface area of each toe. The resulting larger foot print enables grouse to amble atop the snow without sinking as deeply, and thus conserving critical energy reserves during a resource scarce time of year. The fingernail-like growths simply fall off by May after all or most of the snow cover has melted away.

Come on in. The Snow is Fine.

Another remarkable idea Grouse have hit upon is to use winter’s thick blanket of snow as just that - a warm (relatively) blanket. If the snow isn’t too dense or icy and is at least 10 inches deep, Ruffed Grouse will plunge into it and burrow down a self-made tunnel, sealing themselves in. This traps air around them, providing an insulating barrier from bitter cold and heat-robbing wind. Their subnivean (below the snow surface) burrows rarely drop below 20 degrees, making them at least a cozy 40 degrees warmer than the outside air during the occasional 20 below zero or worse cold snaps experienced in the Northeast.

This Ruffed Grouse hen sitting on her nest shows just how amazing the camouflage of this bird is.



Ruffed Grouse Society image.



A male Grouse in full "ruffed" display.



Ed Sharron



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Snow adaptations of the Grouse. On left is an emergence hole in the snow where a grouse spent the cold winter night (some scat is also visible). On right shows the comb-like snowshoes they grow on their feet in the winter.

Their habit of hiding under the snow inevitably leads to near heart attack moments for snowshoers and back-country skiers alike. You are minding your own business when a Grouse suddenly and explosively bursts out of the snow in a flurry of feathers and loud wing beats only inches from where you were about to step/ski. It is a kind-of rite of passage for the intrepid northern forest winter explorer. This blatantly boisterous escape method is intentional in hopes that it will temporarily stun a predator just long enough for the bird to fly away unharmed.

It's Hard Out Here for a Grouse

Ruffed Grouse are a prize catch for many predators of the woods. In fact, for this and other reasons they rarely live over 20 months. Reaching 3 or 4 years is a grand achievement. Many raptors and land based predators account for this carnage. But perhaps the chief nemesis of the Ruffed Grouse is a member of the owl family: the Great Horned Owl ("Spotlighted" 10-2018). So much so has the Grouse learned to avoid attracting the attention of this very capable predator, that the males have evolved a way to "call out" to potential mates that the Owls can't hear.

Out-wising the Owl

Besides "ruffing" it out, another part of the elaborate mating ritual male Grouse perform is to bang out a drumming solo from an old rotting log in the forest. These prime drumming locations are highly sought after by males. Ideally, they're about 15 inches off the ground, 20

to 40 feet long, and sitting under branches to foil would-be winged predators. Once they find a keeper, male Grouse will likely spend the remainder of their lives no farther than a 200 to 300 yard radius from that log.

It is a sound of such low frequency, it is almost felt more than heard. To the uninitiated, a male drumming routine can often be confused for a pesky chainsaw or lawn mower that just won't start-up in the spring. The deep base notes start slowly, build to a crescendo, and slow down again towards the end. All this is done without banging on the log at all however. The entire routine is achieved by rapidly rotating his wings back-and-forth so that they create a series of miniature sonic booms that can travel a quarter mile or more. Not bad for a bird that barely tips the scales at a pound. This routine might seem like ringing the dinner bell for owls, but this surprisingly isn't the case.

"There are two kinds of hunting: ordinary hunting, and Ruffed Grouse hunting. There are two places to hunt grouse: ordinary places, and Adams County. There are two times to hunt in Adams: ordinary times, and when the tamaracks are smoky gold. This is written for those luckless ones who have never stood, gun empty and mouth agape, to watch the golden needles come sifting down, while the feathery rocket that knocked them off sails unscathed into the jackpines."

-- Aldo Leopold, A Sand County Almanac

Owls hear best in the high frequency range (think the squeaking of a mouse), and much less acutely at lower ranges. Grouse drumming is either so low that owls can't hear it or the low-frequency long-wavelengths are too difficult for them to pinpoint.

For more information

- Watch a Ruffed Grouse drum on a log: <https://www.youtube.com/watch?v=tcA3tyE1fYs>
- For info on NETN's long-term Breeding Landbird monitoring program see <https://www.nps.gov/im/netn/breeding-landbirds.htm>.