

Sometimes You Feel Like a Nut.

With their distinctive bushy tails and chubby bodies, Eastern Gray squirrels are a common sight here in the Midwest. As the cold months start to dwindle away, you may see a squirrel scurrying across the sidewalk or rummaging through a trash bin and wonder what it has been doing all winter. What you may not know is that it has been doing exactly what it is doing right before your eyes.

There is a common misconception that all mammals hibernate during the winter. Eastern Gray Squirrels do not, which is why we see shaggy tails protruding from campus trash cans after fresh snow hits the ground mid-February. Animals that hibernate spend an extended period, usually the length of an entire winter, in a torpid or resting state. Squirrels choose dormancy, short periods of suspended activity, only in the worst types of weather. In these times squirrels hole up in nests called “dreys” that they have built in the branches of trees or bushes, or in dens in the hollows of trees, where they will curl up using their tails like a blanket to conserve body heat. At times they will set up shop in an attic or basement, removing insulation in walls to construct their forts.

When the winter weather is kind, squirrels venture from their warm dreys, spending a bit of their conserved energy toward uncovering food they have hidden during warmer weather. Squirrels love to use their strong jaw muscles and sharp front teeth to nosh away at walnuts and acorns. They will chew on oak, hazel, and beech nuts, seeds, and even fungus when they can get their grubby paws on it. Yet, being the opportunistic feeders they are, they will consume almost anything they see, including birds’ eggs, small frogs, and even fries and pizza.

They mostly eat what they have hoarded earlier in the year. As soon as trees start to drop their nuts and seeds, a squirrel will begin collecting and hiding them at various places in his one to seven acre territory. With its many trees, Augustana offers a great natural environment to support a large squirrel population.

Despite a brain that comprises only .66% of his body weight, a squirrel can remember where he puts nearly all of his nuts and seeds. The squirrel doesn’t use a system of Post-it notes, as one television commercial suggests, to recall the locations. Instead, according to Dr. Stephen Hager, Professor of Biology, squirrels use a part of their brain developed in landmark recognition and memory.

Their system is much like the one we use every day to get around campus. We remember where our 8:30 class is because we go there every day. We know what streets to walk on and use visual clues to commit the class’s location to memory. Same goes for the squirrel. He knows his food is hidden between two oak trees, for example, because he has been to that location (to hide the seeds in the first place), and by observing landmarks has committed it to memory. Months later, through two feet of snow, providing that neither of the oak trees has been removed, the squirrel can uncover the nuts.

Squirrels aren’t the only animals that exhibit this type of hoarding behavior. Birds and even some insects will hide food to be recovered at a later date. Hager recalled a study done with woodpeckers that showed they recovered 80% of food hidden at 8,000 various sites. This type of conduct is favored by natural selection for animals that must be active during periods when food is scarce.

Well, what happens to those seeds and nuts that are never recovered? Since a squirrel marks his territory by urinating on trees to ward off fellow squirrels, you may think that if a seed is not

recovered it is lost. Yet, some squirrels disregard the limits set by territories and dig up nuts that are not their own. Other nuts are never found and will then grow into trees or bushes that will provide homes and food for the future squirrel population.

Essentially, securing the future is what this process of surviving the winter is all about. Late in the cold season, the male Eastern Gray squirrel will set out from his dwelling and begin following a female squirrel. He will stalk her until she begins her roughly 8 hour period of estrus, where he will then attempt to chase away any fellow male followers for a chance at a 30 second copulation with her. If the male is successful at eradicating his competitors, his parental investment is over and he goes back to finding food. If not, he'll keep working hard to try to mate with another female. Really, the squirrel aims to survive the winter and perform this lengthy mating chase all for a 30 second romantic interlude. Ain't that life?