It's early February and a deep snow pack blankets the landscape. I move slowly under the shelter of snow-covered spruce and fir trees, the leather of my snowshoes creaking from the cold. I stop occasionally to measure the snow depth and examine the ragged torn ends of hardwood twigs, indicating where a deer has fed. A trail packed heavily by a multitude of cloven hooves leads before me into the shadows of the winter woods. I stop when I spot the brown form of a deer standing starkly against the winter snow. When my eyes adjust, I spot a second and third deer motionless, ears up, noses testing the wind to ascertain the identity of this intruder in their winter home.

Suddenly, in an eruption of snow, hooves and waving tails, the deer leap away. I count not only the first three deer, but eight more that file quickly behind the others, disappearing down the packed trail. I know that there are dozens of other deer seeking harbor from the deep snow and bitter temperatures in these northern woods. These furtive animals are here in larger numbers because they have gathered to spend the winter in habitat known as a deer wintering area or “deer yard.”

**Forest Sanctuary**

Why are the deer here, and what drives them to this location each winter? Biologists know that in New England, deer are at the northern limit of their range. Unlike their long-legged cousins, the moose, deer have difficulty pushing through snow that reaches 18 inches or more in depth. The cruel winds of winter and below-zero temperatures sap deer’s strength and cause them to burn fat reserves. To reduce their energy output, deer instinctively seek out stands of trees that provide shelter and help ensure their survival during the long months of winter. Biologists believe that does take their fawns and, in turn, these fawns take their offspring to the same area in subsequent years. Some wintering areas have been used by deer for decades.

Deer may travel many miles to these traditional wintering areas, which are highly variable in size. In northern New Hampshire, one large deer yard hosts deer from 20 miles away. In late November and early December, increasing snow depths and colder temperatures compel deer to travel to their traditional.
wintering areas. These yards may be only a dozen acres in size — biologists call these “pocket yards” — or vast complexes of thousands of acres supporting hundreds of deer throughout the winter. A deer wintering area may serve deer from many nearby towns and hundreds of square miles of summer deer range.

Tree species, size and location on the landscape are all important factors in determining whether or not a parcel of forest has the attributes to serve as a deer wintering area. Non-deciduous trees are essential to provide cover for deer, because the evergreen needles keep the snow from reaching the ground and break the wind. Under the canopy of the dense limbs, nighttime temperatures are not as bitter, and winds are not as strong. The flat needle structure of hemlock trees is the best for retaining snow, followed by white cedar, balsam fir and spruce. In some instances, particularly in southern New Hampshire, white pine may also provide winter cover. Trees that are older and larger — 35 feet and taller, with stronger, spreading branches to support greater snow loads — make the best cover trees. Trees spaced closely together so that their crowns are touching helps the canopy to further intercept the snow load.

Most deer wintering areas are located on southern- and western-facing slopes, where deer can take advantage of the longer and stronger sunlight. Rarely are they found higher than 1,500 feet in elevation, although some pocket yarding has been found to occur on higher mountain ridges. Often, major deer wintering areas are located along a stream or river course. Dense cedar swamps can also be the location of this unique habitat type. In southern New Hampshire, oak hillsides interspersed with some softwood cover for shelter can be a deer wintering area.

Ideal deer wintering areas consist of more than just stands of cover trees, however. The best yards are interspersed with small openings where young trees and shrubs have begun to grow, providing a critical source of browse. During late winter in particular, deer will take advantage of stronger sunlight shining into these openings, where they will stand and soak up the bright sunlight of the lengthening late-winter days. Timber harvests adjacent to softwood cover stands can provide additional browse for hungry deer.

In New Hampshire, biologists have spent years mapping the locations of deer wintering areas, which make up less than three percent of New Hampshire’s landscape. Deer yards are considered critical habitat for the survival of New Hampshire’s deer herd. Without them, deer living in our northern latitudes would simply fail to survive. Recognizing that every deer wintering area is important, New Hampshire Fish and Game has a long history of providing technical assistance to landowners who have an interest in
managing deer yards found on their lands. Since the late 1940s, biologists have worked hand-in-hand with foresters on industrial forest lands, helping to guide timber harvests that can be beneficial to the long-term viability of this habitat. Recently, Fish and Game staff participated in the re-writing of deer wintering area management guidelines for the revised “Best Forestry in the Granite State” manual.

**Assessing the Winter Herd**

I continue my deer yard survey. Over the course of the winter, my colleagues and I will snowshoe through dozens of deer yards, taking measurements and assessing the health of the deer that seek refuge in the yard. Clumps of deer hair scattered over the snow alert me to a kill nearby. As the winter progresses, some deer inevitably fall victim to this difficult season. Perhaps this deer entered the winter in poor health, with low fat reserves – or maybe it fell prey to a coyote or bobcat. Dead deer, known collectively as “winter kill,” provide valuable insight into the overall health of the deer herd. I snowshoe toward the kill site. Once there, I run my hand over the head to look for antler pedicels (the bone nubs from which antlers grow; males have pedicels, females do not). I then slice open the cheek to expose the jaw. I age the deer by looking at tooth wear. A sharp blow to the exposed deer femur leg bone reveals the marrow. A healthy marrow will appear white or pink and has the consistency of suet, due to its high fat content; the marrow of a deer in the advanced stages of malnutrition is similar in appearance and consistency to that of red jelly. I record this deer’s marrow as “pink solid” in my field book. Coyote tracks nearby may point to the reason for this seemingly healthy deer’s demise.

A dead deer does not go to waste, however, in Mother Nature’s pantry. Fisher, American marten, blue jays, ravens and chickadees (to name a few) all may gather to take advantage of this source of protein. Porcupines and other rodents will gnaw away the bones for the calcium; in the spring, when the carcass has been reduced to mere hair on the forest floor, birds will carry away the hollow deer hair to line their nests.

A leg bone (left) exhibits the watery, fat-deficient marrow of a deer that died from malnutrition. Coyotes and bobcats prey upon deer. They and others, like blue jays, crows and ravens, benefit from deer starvation.
intriguing World

The weak sunlight of late winter filters through the balsam fir as I record my final observations in my field book. I turn to snowshoe back to the truck, the survey for this yard complete. A flick of a deer’s ear in the shadows of a clump of spruce catches my eye. Black eyes ringed with white stare at me as a deer peers intently from behind the large gray trunk of a fir tree. Then, like a wisp of smoke, the deer slips away. I smile to myself. I feel lucky to have entered, if only for a short time, into the intriguing world of the wintering deer. My survey will provide valuable data for the deer project. With good forest management and an understanding of the importance of this critical habitat, deer wintering areas can continue to be a valuable component of New Hampshire’s rich forested landscape — and ensure the future existence of this revered species.

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