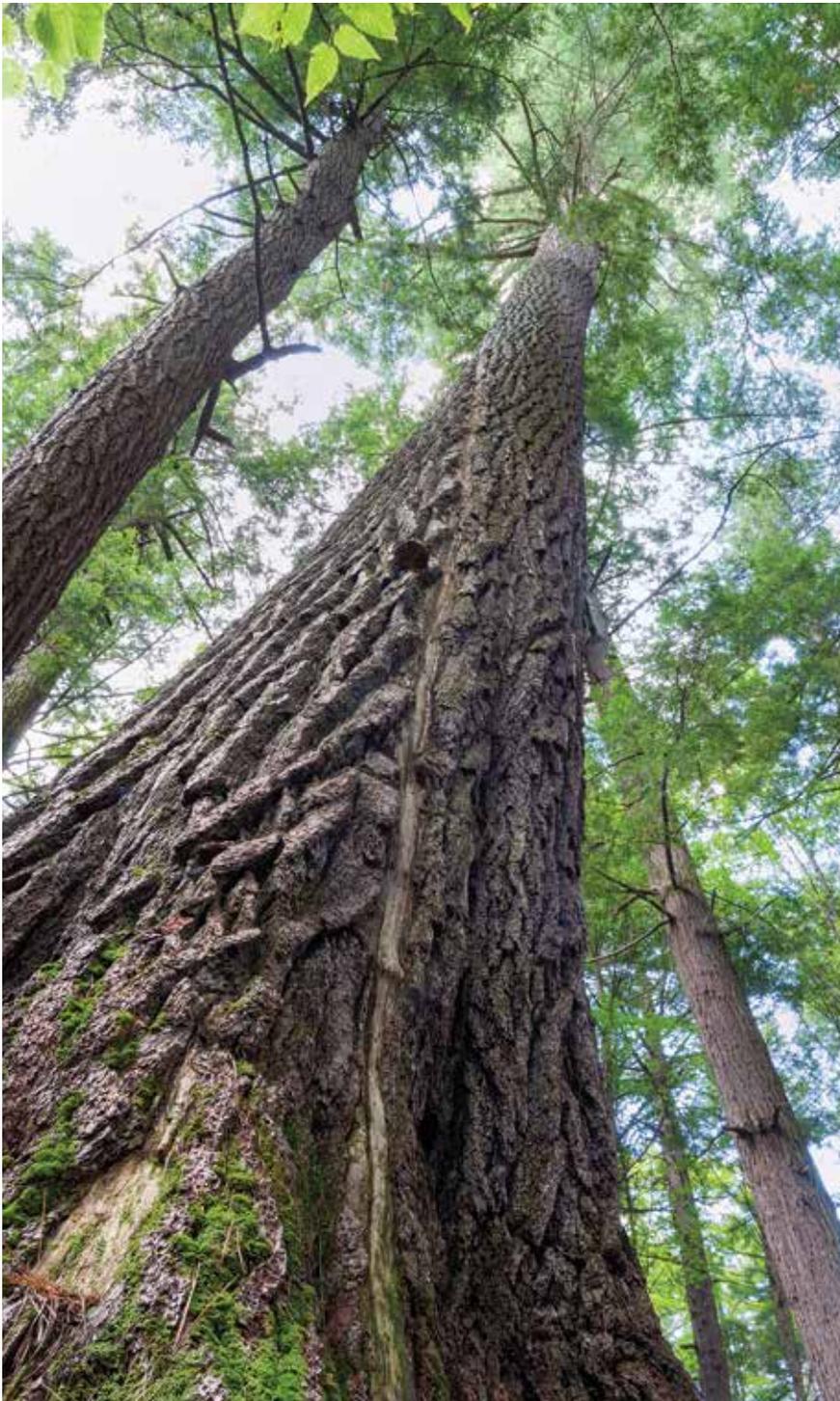




EASTERN WHITE PINE: *a monarch among trees*

By Gloria Van Duyne

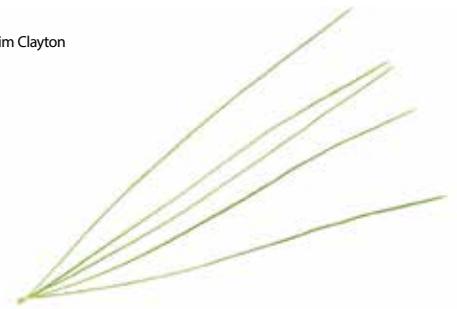


Wayne Jones

The eastern white pine is one of my favorite trees. Tall, statuesque and imposing, it often towers over the other trees in a forest. In fact, the white pine is the tallest tree in New York State, with some reaching nearly 200 feet in height. Elder's Grove, near Paul Smith's College in the Adirondacks, and Pack Demonstration Forest near Warrensburg are both home to specimens taller than 150 feet.

Also known as soft pine, northern pine and Weymouth pine, the white pine is most easily identified by its soft, bluish-green 2-5" long needles, which are set in bundles (called fascicles) of five. Since it is the only five-needled tree in the northeast, this mnemonic device may help you remember how to identify the white pine: it has five needles, and there are five letters in the word "white" (W-H-I-T-E).

Jim Clayton



Sun-loving, the white pine is one of the first trees to colonize old fields. Both young and mature trees provide shade for sun-sensitive trees, and food and shelter for many wildlife species. White pine seeds are eaten by birds such as crossbills, evening grosbeaks and red-breasted nuthatches, as well as three types of squirrels, chipmunks, and other small mammals. Black-capped chickadees, pine warblers and other insect-eaters feed in fissures and furrows on the bark. Porcupines will eat the inner bark. Cavity dwellers such as screech owls, several species



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Tall, straight and strong, white pine made good ship masts.



Susan Shafer

of woodpeckers, tufted titmice, bats and squirrels will make use of larger white pines with decaying centers.

Black bear sows use the base of large white pines for rest and refuge sites with their cubs in early spring, and snowshoe hare, grey fox, fisher, and many small mammals find cover and food beneath young white pines. Deer also use these young pines as shelter during winter, eating the needles when other food is scarce.

Eagles and osprey prefer to nest in “super canopy” white pines, lone specimens extending above the rest of the forest, which provide easy access to and from the nest. Arrangement of the white pine’s whorled branches provides a strong base for nest construction.

The multifaceted white pine has long been admired and used by people as well. The needles contain large amounts of Vitamins A and C, as well as resveratrol, an anti-oxidant and anti-inflammatory also found in red wine. When pine bark is cut, resin oozes out to seal the wound. It then hardens and turns white. White pine resin has been used to waterproof baskets, pails and boats. Sap flowing through the xylem and phloem (vascular tissues) has antimicrobial properties that has been used to treat wounds and ailments. The sap can also be processed to make turpentine.

Although it’s difficult to imagine today, white pines historically grew as tall as 230 feet. When European colonists arrived in North America, they quickly made use of

these tall pines. Colonists felt it was the perfect building material—the wood was easily worked, and it was relatively lightweight, strong and plentiful. Early settlers used it for framing, furniture, utensils, coffins, bowls, flooring, and much more. Twenty years after the pilgrims arrived, they were shipping white pine as far away as Madagascar.

Because of its length, strength and relative lightness, white pine wood also made great ship masts. During colonial times, a country’s power depended in part on the strength and speed of its navy. The taller the mast and larger the sail, the faster a ship could go. In many ways, the importance of masts could be compared to fuel oil today, because good masts meant

strong propulsion. England had long ago cut its large trees and relied on ship masts cut from firs in the Baltic. Unfortunately they were forced to compete with France and other rivals for the same trees. But then Great Britain turned to white pine, making their ships become the “greyhounds of the sea,” and collectively augmented a powerful naval force.

King George III considered the colonies “Crown Land” and thus their resources were reserved for use by the British Empire. The king became concerned, and rightfully so, that white pines were being cut at an unsustainable rate. The king’s royal surveyors were sent to claim the pines as Crown property. Each white pine was marked with an arrow made by three hatchet slashes on the trunk.

Known as the King’s Arrow and signifying Crown ownership, this emblem enraged landowners and added to the colonies’ unrest against Great Britain. Some believe that in addition to the greater topic of “taxation without representation” and political protests like the Boston Tea Party, the taking of white pine may also have played a part in bringing about the American Revolution. The white pine was depicted on the first colonial flag.

Like other trees, white pine has its share of pests, diseases and other challenges. After 300 years of uncontrolled logging and agricultural clearing, New York started replanting trees to prevent soil erosion, protect water quality, and provide for future sources of timber. But neither New York nor other states had sources of seedlings in quantity, so millions of seedlings were shipped from Europe until state-owned nurseries could be established. Unfortunately, along with the seedlings came “hitchhikers,” like white pine blister rust, which caused up to 80% mortality in mature white pine groves in the early twentieth century. Because white pine blister rust requires a second host plant in the genus *Ribes*



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(gooseberry and wild currant) to complete its life cycle, a tenacious *Ribes* eradication campaign ensued. Today, wild currants are relatively rare and white pine mortality from rust is now only about 3%.

Some other insects and diseases that affect white pine today include the white pine weevil, red and black turpentine beetle, *Caliciopsis* canker, and *Armillaria* root disease.

In spite of white pine’s many challenges, it continues to be an important part of our landscape, deep in the forest, in old fields, and in our neighborhoods. Spared the ax and chain saw, and with a

little luck to avoid debilitating diseases, these magnificent trees can live hundreds of years. I often notice these towering giants and wonder what animals might be found in and around them.

I have a row of white pines bordering my property. Their “fluffy” evergreen branches provide lovely screening, the birds nest in them, and the squirrels enthusiastically eat the seeds from their cones. I feel honored to have these monarchs of trees grace my yard.

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